

# The leszcz Reference Manual

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# Table of Contents

|   |           |
|---|-----------|
| Copying .....                                       | 1         |
| <b>1 Systems .....</b>                              | <b>3</b>  |
| 1.1 leszcz .....                                    | 3         |
| 1.2 leszcz-types .....                              | 3         |
| 1.3 leszcz-constants .....                          | 3         |
| 1.4 raylib .....                                    | 4         |
| 1.5 gui .....                                       | 4         |
| 1.6 net .....                                       | 4         |
| 1.7 fast .....                                      | 4         |
| <b>2 Files .....</b>                                | <b>7</b>  |
| 2.1 Lisp .....                                      | 7         |
| 2.1.1 leszcz/leszcz.asd .....                       | 7         |
| 2.1.2 leszcz-types/leszcz-types.asd .....           | 7         |
| 2.1.3 leszcz-constants/leszcz-constants.asd .....   | 7         |
| 2.1.4 raylib/raylib.asd .....                       | 7         |
| 2.1.5 gui/gui.asd .....                             | 7         |
| 2.1.6 net/net.asd .....                             | 7         |
| 2.1.7 fast/fast.asd .....                           | 8         |
| 2.1.8 leszcz/leszcz.lisp .....                      | 8         |
| 2.1.9 leszcz/bot.lisp .....                         | 11        |
| 2.1.10 leszcz/book.lisp .....                       | 12        |
| 2.1.11 leszcz-types/leszcz-types.lisp .....         | 14        |
| 2.1.12 leszcz-constants/leszcz-constants.lisp ..... | 15        |
| 2.1.13 raylib/raylib.lisp .....                     | 17        |
| 2.1.14 gui/gui.lisp .....                           | 19        |
| 2.1.15 net/net.lisp .....                           | 21        |
| 2.1.16 fast/fast.lisp .....                         | 22        |
| <b>3 Packages .....</b>                             | <b>25</b> |
| 3.1 raylib .....                                    | 25        |
| 3.2 leszcz .....                                    | 27        |
| 3.3 leszcz-constants .....                          | 33        |
| 3.4 fast .....                                      | 34        |
| 3.5 leszcz-types .....                              | 36        |
| 3.6 gui .....                                       | 38        |
| 3.7 net .....                                       | 40        |
| <b>4 Definitions .....</b>                          | <b>43</b> |
| 4.1 Public Interface .....                          | 43        |
| 4.1.1 Constants .....                               | 43        |
| 4.1.2 Special variables .....                       | 45        |
| 4.1.3 Macros .....                                  | 48        |
| 4.1.4 Ordinary functions .....                      | 49        |
| 4.1.5 Generic functions .....                       | 61        |

|                                 |                          |            |
|---------------------------------|--------------------------|------------|
| 4.1.6                           | Standalone methods ..... | 73         |
| 4.1.7                           | Conditions .....         | 74         |
| 4.1.8                           | Structures .....         | 74         |
| 4.1.9                           | Classes .....            | 76         |
| 4.1.10                          | Types .....              | 82         |
| 4.2                             | Internals .....          | 82         |
| 4.2.1                           | Constants .....          | 82         |
| 4.2.2                           | Special variables .....  | 83         |
| 4.2.3                           | Macros .....             | 90         |
| 4.2.4                           | Ordinary functions ..... | 92         |
| 4.2.5                           | Generic functions .....  | 105        |
| 4.2.6                           | Structures .....         | 106        |
| 4.2.7                           | Classes .....            | 108        |
| 4.2.8                           | Types .....              | 109        |
| <b>Appendix A Indexes .....</b> |                          | <b>111</b> |
| A.1                             | Concepts .....           | 111        |
| A.2                             | Functions .....          | 112        |
| A.3                             | Variables .....          | 120        |
| A.4                             | Data types .....         | 125        |

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# 1 Systems

The main system appears first, followed by any subsystem dependency.

## 1.1 leszcz

Main entry and logic of leszcz.

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### Dependencies

- alexandria (system).
- cl-ppcre (system).
- cl-store (system).
- local-time (system).
- bordeaux-threads (system).
- file-select (system).
- [leszcz-types], page 3 (system).
- [leszcz-constants], page 3 (system).
- [raylib], page 4 (system).
- [gui], page 4 (system).
- [net], page 4 (system).

**Source** [leszcz.asd], page 7.

### Child Components

- [leszcz.lisp], page 8 (file).
- [bot.lisp], page 11 (file).
- [book.lisp], page 12 (file).

## 1.2 leszcz-types

### Dependency

[leszcz-constants], page 3 (system).

**Source** [leszcz-types.asd], page 7.

### Child Component

[leszcz-types.lisp], page 14 (file).

## 1.3 leszcz-constants

### Dependencies

- alexandria (system).
- local-time (system).
- str (system).

**Source** [leszcz-constants.asd], page 7.

### Child Component

[leszcz-constants.lisp], page 15 (file).

## 1.4 raylib

### Dependencies

- `cffi` (system).
- `cffi-libffi` (system).

**Source**     `[raylib.asd]`, page 7.

### Child Component

`[raylib.lisp]`, page 17 (file).

## 1.5 gui

some GUI functions for leszcz.

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### Dependencies

- `[raylib]`, page 4 (system).
- `[leszcz-types]`, page 3 (system).
- `[leszcz-constants]`, page 3 (system).
- `cl-ppcre` (system).

**Source**     `[gui.asd]`, page 7.

### Child Component

`[gui.lisp]`, page 19 (file).

## 1.6 net

Network protocol implementation for leszcz.

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### Dependencies

- `[leszcz-types]`, page 3 (system).
- `[leszcz-constants]`, page 3 (system).
- `[fast]`, page 4 (system).
- `alexandria` (system).
- `cl-ppcre` (system).
- `usocket` (system).

**Source**     `[net.asd]`, page 7.

### Child Component

`[net.lisp]`, page 21 (file).

## 1.7 fast

Faster board operations for leszcz.

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**Dependencies**

- [leszcz-types], page 3 (system).
- [leszcz-constants], page 3 (system).
- alexandria (system).
- cl-ppcre (system).

**Source** [fast.asd], page 8.

**Child Component**

[fast.lisp], page 22 (file).



## 2 Files

Files are sorted by type and then listed depth-first from the systems components trees.

### 2.1 Lisp

#### 2.1.1 `leszcz/leszcz.asd`

**Source** [leszcz.asd], page 7.

**Parent Component**  
[leszcz], page 3 (system).

**ASDF Systems**  
[leszcz], page 3.

#### 2.1.2 `leszcz-types/leszcz-types.asd`

**Source** [leszcz-types.asd], page 7.

**Parent Component**  
[leszcz-types], page 3 (system).

**ASDF Systems**  
[leszcz-types], page 3.

#### 2.1.3 `leszcz-constants/leszcz-constants.asd`

**Source** [leszcz-constants.asd], page 7.

**Parent Component**  
[leszcz-constants], page 3 (system).

**ASDF Systems**  
[leszcz-constants], page 3.

#### 2.1.4 `raylib/raylib.asd`

**Source** [raylib.asd], page 7.

**Parent Component**  
[raylib], page 4 (system).

**ASDF Systems**  
[raylib], page 4.

#### 2.1.5 `gui/gui.asd`

**Source** [gui.asd], page 7.

**Parent Component**  
[gui], page 4 (system).

**ASDF Systems**  
[gui], page 4.

#### 2.1.6 `net/net.asd`

**Source** [net.asd], page 7.

**Parent Component**  
[net], page 4 (system).

**ASDF Systems**  
[net], page 4.

### 2.1.7 fast/fast.asd

**Source** [fast.asd], page 8.

**Parent Component**  
[fast], page 4 (system).

**ASDF Systems**  
[fast], page 4.

### 2.1.8 leszcz/leszcz.lisp

**Source** [leszcz.asd], page 7.

**Parent Component**  
[leszcz], page 3 (system).

**Packages** [leszcz], page 27.

#### Public Interface

- [\*current-game\*], page 45 (special variable).
- [\*current-screen\*], page 45 (special variable).
- [main], page 56 (function).
- [thread], page 49 (macro).

#### Internals

- [%ask-uname], page 92 (function).
- [%display-waiting-for-connection], page 92 (function).
- [%game-options-menu], page 92 (function).
- [%host-game-menu], page 92 (function).
- [%info-menu], page 92 (function).
- [%join-game-menu], page 92 (function).
- [%local-player-vs-player], page 93 (function).
- [%main], page 93 (function).
- [%online-host-menu], page 93 (function).
- [%online-join-menu], page 93 (function).
- [%test-main], page 93 (function).
- [\*arrow-color\*], page 84 (special variable).
- [\*arrow-last-point\*], page 85 (special variable).
- [\*bot-depth\*], page 85 (special variable).
- [\*current-board-evaluation\*], page 85 (special variable).
- [\*current-ping\*], page 85 (special variable).
- [\*current-tooltip\*], page 85 (special variable).
- [\*last-ping-ht\*], page 86 (special variable).
- [\*nerd-p\*], page 86 (special variable).
- [\*opponent-asked-for-takeback-p\*], page 86 (special variable).
- [\*opponent-proposed-draw-p\*], page 86 (special variable).
- [\*takeback-position\*], page 86 (special variable).
- [\*threads\*], page 87 (special variable).
- [+hlm/last-from+], page 87 (special variable).

- [`+hlm/last-to+`], page 87 (special variable).
- [`all*`], page 90 (macro).
- [`ask-for-upgrade-type`], page 93 (function).
- [`base-texture-of`], page 93 (function).
- [`bb->move-lst`], page 93 (function).
- [`cleanup-threads!`], page 93 (function).
- [`connect-to-master`], page 93 (function).
- [`coords->point`], page 94 (function).
- [`dct/size`], page 87 (special variable).
- [`delete-current-tooltip!`], page 94 (function).
- [`display-draw`], page 94 (function).
- [`display-game-finish-menu`], page 94 (function).
- [`display-win`], page 94 (function).
- [`dmh/font-size`], page 87 (special variable).
- [`dmh/height`], page 87 (special variable).
- [`dmh/rect`], page 87 (special variable).
- [`dmh/show`], page 88 (special variable).
- [`dmh/xpad`], page 88 (special variable).
- [`draw-arrow`], page 94 (function).
- [`draw-current-tooltip`], page 94 (function).
- [`draw-game`], page 94 (function).
- [`draw-game-control-buttons`], page 95 (function).
- [`draw-icon`], page 95 (function).
- [`draw-menu-button`], page 95 (function).
- [`draw-move-history`], page 95 (function).
- [`draw-piece`], page 95 (function).
- [`draw-piece/anim-frame`], page 88 (special variable).
- [`draw-piece/anim-frame-ticker`], page 88 (special variable).
- [`draw-piece/piece-on-point`], page 88 (special variable).
- [`draw-time`], page 95 (function).
- [`dt/font-size`], page 88 (special variable).
- [`dta+bgshade`], page 95 (function).
- [`dts+bgshade`], page 95 (function).
- [`enposition-moveset`], page 95 (function).
- [`fb-filter-check-moves`], page 91 (macro).
- [`fb-filter-check-moves*`], page 91 (macro).
- [`fb-point-checked-p`], page 97 (function).
- [`fb1-king-of`], page 97 (function).
- [`fen->game`], page 97 (function).
- [`filter-own-pieces`], page 97 (function).
- [`game->fen`], page 97 (function).
- [`game-accept-draw`], page 97 (function).
- [`game-accept-takeback`], page 98 (function).

- [game-check-for-mates], page 106 (method).
- [game-do-move], page 98 (function).
- [game-main-loop], page 98 (function).
- [game-propose-draw], page 98 (function).
- [game-resign], page 98 (function).
- [game-set-fen!], page 98 (function).
- [game-surrender], page 98 (function).
- [game-update-points-cache], page 106 (method).
- [game-update-possible-moves-cache], page 106 (method).
- [generate-sliding-moves], page 98 (function).
- [gml/ping-ticker], page 88 (special variable).
- [hasp], page 98 (function).
- [highlight-last-move], page 99 (function).
- [highlight-possible-moves], page 99 (function).
- [initialize-game], page 99 (function).
- [king-of], page 99 (function).
- [lst->pos], page 99 (function).
- [make-player-vs-bot], page 99 (function).
- [maybe-castling-moves], page 99 (function).
- [maybe-catch-all-exceptions], page 91 (macro).
- [maybe-catch-finish], page 91 (macro).
- [maybe-drag], page 100 (function).
- [maybe-drag/capturer], page 88 (special variable).
- [maybe-drag/piece], page 88 (special variable).
- [maybe-draw-arrow], page 100 (function).
- [maybe-draw-eval], page 100 (function).
- [maybe-draw-nerd-stuff], page 100 (function).
- [maybe-move-bot], page 100 (function).
- [maybe-receive-something], page 100 (function).
- [maybe-reverse], page 91 (macro).
- [maybe-set-cursor], page 100 (function).
- [maybe-switch-nerd], page 100 (function).
- [maybe-switch-sides], page 100 (function).
- [maybe-switch-sides/capturer], page 88 (special variable).
- [maybe-trace], page 91 (macro).
- [maybe-trap-floats], page 92 (macro).
- [move->algebraic], page 100 (function).
- [move-possible-p], page 100 (function).
- [old--point-checked-p], page 101 (function).
- [piece->char], page 102 (function).
- [piece-at-point], page 102 (function).
- [place], page 109 (type).
- [point-checked-p], page 102 (function).

- [pos->lst], page 102 (function).
- [position-of], page 102 (function).
- [possible-moves-for], page 102 (function).
- [pre--possible-moves-for], page 103 (function).
- [pre--possible-moves-for/pawn], page 103 (function).
- [pre--possible-moves-for/upgrade], page 103 (function).
- [print-castle-rules], page 103 (function).
- [safe-piece-type], page 92 (macro).
- [save-game-to-pgn], page 103 (function).
- [send-ping-to], page 103 (function).
- [set-current-tooltip!], page 92 (macro).
- [show-exception-interactively-and-continue], page 104 (function).
- [show-point-at-cursor], page 104 (function).
- [slow-filter-check-moves], page 104 (function).
- [start-master-server], page 104 (function).
- [type->char], page 104 (function).
- [ut/make-texture-lambda], page 104 (function).
- [ut/pad-size], page 90 (special variable).
- [ut/upgrade-bishop-texture], page 90 (special variable).
- [ut/upgrade-knight-texture], page 90 (special variable).
- [ut/upgrade-queen-texture], page 90 (special variable).
- [ut/upgrade-rook-texture], page 90 (special variable).
- [ut/upgrade-size], page 90 (special variable).
- [v2+], page 104 (function).
- [v2-], page 104 (function).

### 2.1.9 leszcz/bot.lisp

**Source** [leszcz.asd], page 7.

**Parent Component**

[leszcz], page 3 (system).

**Internals**

- [\*bonus-table\*], page 85 (special variable).
- [\*rev-bonus-table\*], page 86 (special variable).
- [+bishop-value+], page 82 (constant).
- [+knight-value+], page 82 (constant).
- [+pawn-value+], page 82 (constant).
- [+queen-value+], page 82 (constant).
- [+rook-value+], page 82 (constant).
- [count-bonuses], page 94 (function).
- [count-material-of], page 94 (function).
- [evaluate-position], page 95 (function).
- [game--search], page 97 (function).
- [game-search], page 98 (function).

- [normalize], page 100 (function).
- [vmax], page 105 (function).
- [vmin], page 105 (function).

### 2.1.10 leszcz/book.lisp

**Source** [leszcz.asd], page 7.

#### Parent Component

[leszcz], page 3 (system).

#### Internals

- [%player-vs-alekhine], page 83 (special variable).
- [%player-vs-anand], page 83 (special variable).
- [%player-vs-bot], page 83 (special variable).
- [%player-vs-botvinnik], page 83 (special variable).
- [%player-vs-capablanca], page 84 (special variable).
- [%player-vs-carlsen], page 84 (special variable).
- [%player-vs-caruana], page 84 (special variable).
- [%player-vs-fischer], page 84 (special variable).
- [%player-vs-kasparov], page 84 (special variable).
- [%player-vs-morphy], page 84 (special variable).
- [%player-vs-nakamura], page 84 (special variable).
- [%player-vs-polgarj], page 84 (special variable).
- [%player-vs-tal], page 84 (special variable).
- [\*alekhine-book\*], page 84 (special variable).
- [\*anand-book\*], page 84 (special variable).
- [\*book\*], page 85 (special variable).
- [\*book-data\*], page 85 (special variable).
- [\*botvinnik-book\*], page 85 (special variable).
- [\*capablanca-book\*], page 85 (special variable).
- [\*carlsen-book\*], page 85 (special variable).
- [\*caruana-book\*], page 85 (special variable).
- [\*fischer-book\*], page 86 (special variable).
- [\*kasparov-book\*], page 86 (special variable).
- [\*morphy-book\*], page 86 (special variable).
- [\*nakamura-book\*], page 86 (special variable).
- [\*polgarj-book\*], page 86 (special variable).
- [\*random-table\*], page 86 (special variable).
- [\*tal-book\*], page 87 (special variable).
- [algebraic->lst], page 93 (function).
- [cchrp], page 90 (macro).
- [cnum], page 90 (macro).
- [copy-pgn], page 94 (function).
- [enumerate], page 91 (macro).
- [gm-book->ht], page 98 (function).



- [hash-zobrist], page 98 (function).
- [load-gm-ht], page 99 (function).
- [make-pgn], page 99 (function).
- [pgn], page 106 (structure).
- [pgn-additional-tags], page 101 (reader).
- [(setf pgn-additional-tags)], page 101 (writer).
- [pgn-black], page 101 (reader).
- [(setf pgn-black)], page 101 (writer).
- [pgn-date], page 101 (reader).
- [(setf pgn-date)], page 101 (writer).
- [pgn-event], page 101 (reader).
- [(setf pgn-event)], page 101 (writer).
- [pgn-moves], page 101 (reader).
- [(setf pgn-moves)], page 101 (writer).
- [pgn-p], page 101 (function).
- [pgn-result], page 101 (reader).
- [(setf pgn-result)], page 101 (writer).
- [pgn-round], page 102 (reader).
- [(setf pgn-round)], page 102 (writer).
- [pgn-site], page 102 (reader).
- [(setf pgn-site)], page 102 (writer).
- [pgn-white], page 102 (reader).
- [(setf pgn-white)], page 102 (writer).
- [piece->zobrist-hash-enum], page 102 (function).
- [read-pgn], page 103 (function).
- [s-begins-with], page 92 (macro).
- [z-black-bishop], page 82 (constant).
- [z-black-king], page 82 (constant).
- [z-black-knight], page 82 (constant).
- [z-black-pawn], page 82 (constant).
- [z-black-queen], page 83 (constant).
- [z-black-rook], page 83 (constant).
- [z-maybe-en-passant], page 105 (function).
- [z-white-bishop], page 83 (constant).
- [z-white-king], page 83 (constant).
- [z-white-knight], page 83 (constant).
- [z-white-pawn], page 83 (constant).
- [z-white-queen], page 83 (constant).
- [z-white-rook], page 83 (constant).

### 2.1.11 leszcz-types/leszcz-types.lisp

**Source** [leszcz-types.asd], page 7.

**Parent Component**

[leszcz-types], page 3 (system).

**Packages** [leszcz-types], page 36.

**Public Interface**

- [blackp], page 50 (function).
- [copy-game], page 50 (function).
- [copy-piece], page 50 (function).
- [game], page 77 (class).
- [game->pgn], page 61 (method).
- [game-black-can-castle-kingside-p], page 61 (reader method).
- [(setf game-black-can-castle-kingside-p)], page 61 (writer method).
- [game-black-can-castle-queenside-p], page 61 (reader method).
- [(setf game-black-can-castle-queenside-p)], page 62 (writer method).
- [game-connection], page 62 (reader method).
- [(setf game-connection)], page 62 (writer method).
- [game-en-passant-target-square], page 62 (reader method).
- [(setf game-en-passant-target-square)], page 62 (writer method).
- [game-fb], page 63 (reader method).
- [(setf game-fb)], page 63 (writer method).
- [game-fullmove-clock], page 63 (reader method).
- [(setf game-fullmove-clock)], page 63 (writer method).
- [game-halfmove-clock], page 63 (reader method).
- [(setf game-halfmove-clock)], page 64 (writer method).
- [game-in-progress-p], page 64 (method).
- [game-interactive-p], page 64 (reader method).
- [(setf game-interactive-p)], page 64 (writer method).
- [game-move-history], page 64 (reader method).
- [(setf game-move-history)], page 65 (writer method).
- [game-opponent-username], page 65 (reader method).
- [(setf game-opponent-username)], page 65 (writer method).
- [game-pieces], page 65 (reader method).
- [(setf game-pieces)], page 65 (writer method).
- [game-points-cache], page 66 (reader method).
- [(setf game-points-cache)], page 66 (writer method).
- [game-possible-moves-cache], page 66 (reader method).
- [(setf game-possible-moves-cache)], page 66 (writer method).
- [game-result], page 67 (reader method).
- [(setf game-result)], page 67 (writer method).
- [game-side], page 67 (reader method).
- [(setf game-side)], page 67 (writer method).

- [game-tick], page 67 (method).
- [game-ticker], page 68 (reader method).
- [(setf game-ticker)], page 68 (writer method).
- [game-time-begin-turn], page 68 (reader method).
- [(setf game-time-begin-turn)], page 68 (writer method).
- [game-time-black], page 68 (reader method).
- [(setf game-time-black)], page 69 (writer method).
- [game-time-white], page 69 (reader method).
- [(setf game-time-white)], page 69 (writer method).
- [game-turn], page 69 (method).
- [game-turn-black-p], page 69 (method).
- [game-turn-white-p], page 70 (method).
- [game-white-can-castle-kingside-p], page 70 (reader method).
- [(setf game-white-can-castle-kingside-p)], page 70 (writer method).
- [game-white-can-castle-queenside-p], page 70 (reader method).
- [(setf game-white-can-castle-queenside-p)], page 70 (writer method).
- [piece], page 80 (class).
- [piece-color], page 71 (reader method).
- [(setf piece-color)], page 71 (writer method).
- [piece-point], page 71 (reader method).
- [(setf piece-point)], page 71 (writer method).
- [piece-type], page 71 (reader method).
- [(setf piece-type)], page 72 (writer method).
- [point], page 81 (class).
- [point-x], page 72 (reader method).
- [(setf point-x)], page 72 (writer method).
- [point-y], page 72 (reader method).
- [(setf point-y)], page 72 (writer method).
- [print-object], page 73 (method).
- [print-object], page 73 (method).
- [print-object], page 73 (method).
- [whitep], page 60 (function).

### 2.1.12 leszcz-constants/leszcz-constants.lisp

**Source** [leszcz-constants.asd], page 7.

**Parent Component**  
[leszcz-constants], page 3 (system).

**Packages** [leszcz-constants], page 33.

**Public Interface**

- [\*board-begin\*], page 45 (special variable).
- [\*board-size\*], page 45 (special variable).
- [\*color-bg-dark\*], page 45 (special variable).
- [\*color-bg-light\*], page 45 (special variable).

- [`*debug*`], page 45 (special variable).
- [`*online-host*`], page 45 (special variable).
- [`*prod*`], page 45 (special variable).
- [`*window-height*`], page 45 (special variable).
- [`*window-hpad*`], page 46 (special variable).
- [`*window-width*`], page 46 (special variable).
- [`*window-wpad*`], page 46 (special variable).
- [`+color-black+`], page 46 (special variable).
- [`+color-grayish+`], page 46 (special variable).
- [`+color-greenish+`], page 46 (special variable).
- [`+color-purple+`], page 46 (special variable).
- [`+color-redish+`], page 46 (special variable).
- [`+color-white+`], page 46 (special variable).
- [`+inf`], page 43 (constant).
- [`+initial-fen+`], page 43 (constant).
- [`+piece-size+`], page 46 (special variable).
- [`+texture-size+`], page 46 (special variable).
- [`-inf`], page 44 (constant).
- [`alagard-data`], page 46 (special variable).
- [`black-texture-alist`], page 47 (special variable).
- [`black-texture-data-list`], page 47 (special variable).
- [`file->vec`], page 54 (function).
- [`finalize-condition`], page 74 (condition).
- [`icon-data-alist`], page 47 (special variable).
- [`icon-texture-alist`], page 47 (special variable).
- [`leszcz-logos-alist`], page 47 (special variable).
- [`let-values`], page 49 (macro).
- [`license-text-1`], page 47 (special variable).
- [`license-text-2`], page 47 (special variable).
- [`logo-data-alist`], page 47 (special variable).
- [`spleen-data`], page 48 (special variable).
- [`texture-options`], page 48 (special variable).
- [`white-texture-alist`], page 48 (special variable).
- [`white-texture-data-list`], page 48 (special variable).

### Internals

- [`black-texture-data-list-pixel`], page 87 (special variable).
- [`black-texture-data-list-sleek`], page 87 (special variable).
- [`white-texture-data-list-pixel`], page 90 (special variable).
- [`white-texture-data-list-sleek`], page 90 (special variable).

### 2.1.13 raylib/raylib.lisp

**Source** [raylib.asd], page 7.

**Parent Component**  
[raylib], page 4 (system).

**Packages** [raylib], page 25.

#### Public Interface

- [\*alagard\*], page 45 (special variable).
- [\*font\*], page 45 (special variable).
- [+cursor-normal+], page 43 (constant).
- [+cursor-pointer+], page 43 (constant).
- [+key-escape+], page 43 (constant).
- [+texture-filter-anisotropic-16x+], page 44 (constant).
- [+texture-filter-anisotropic-4x+], page 44 (constant).
- [+texture-filter-anisotropic-8x+], page 44 (constant).
- [+texture-filter-bilinear+], page 44 (constant).
- [+texture-filter-point+], page 44 (constant).
- [+texture-filter-trilinear+], page 44 (constant).
- [begin-drawing], page 49 (function).
- [begin-scissor-mode], page 49 (function).
- [begin-texture-mode], page 50 (function).
- [clear-background], page 50 (function).
- [close-window], page 50 (function).
- [color], page 82 (type).
- [draw-circle], page 51 (function).
- [draw-fps], page 51 (function).
- [draw-line], page 51 (function).
- [draw-line-1], page 51 (function).
- [draw-rectangle], page 51 (function).
- [draw-rectangle-lines], page 51 (function).
- [draw-rectangle-lines-2], page 51 (function).
- [draw-rectangle-rounded], page 51 (function).
- [draw-text], page 51 (function).
- [draw-text-1], page 51 (function).
- [draw-text-2], page 51 (function).
- [draw-text-alagard], page 52 (function).
- [draw-text-alagard-centered], page 52 (function).
- [draw-text-centered], page 52 (function).
- [draw-texture], page 52 (function).
- [end-drawing], page 52 (function).
- [end-scissor-mode], page 52 (function).
- [end-texture-mode], page 52 (function).
- [floatize], page 54 (function).

- [get-char-pressed], page 54 (function).
- [get-chars-pressed], page 54 (function).
- [get-chars-pressed-1], page 54 (function).
- [image->texture], page 55 (function).
- [init-window], page 55 (function).
- [key-down-p], page 55 (function).
- [key-down-p-1], page 55 (function).
- [key-pressed-p], page 55 (function).
- [key-pressed-p-1], page 55 (function).
- [load-font], page 55 (function).
- [load-font-from-memory], page 55 (function).
- [load-image-from-memory], page 55 (function).
- [load-textures], page 56 (function).
- [make-font], page 56 (function).
- [make-render-texture], page 56 (function).
- [make-texture], page 56 (function).
- [measure-text], page 57 (function).
- [measure-text-1], page 57 (function).
- [mouse-down-p], page 57 (function).
- [mouse-pos], page 57 (function).
- [mouse-pos-1], page 57 (function).
- [mouse-pressed-p], page 57 (function).
- [mouse-released-p], page 57 (function).
- [mouse-x], page 57 (function).
- [mouse-y], page 57 (function).
- [open-url!], page 57 (function).
- [point-in-rect-p], page 58 (function).
- [screen->image], page 58 (function).
- [scroll-delta], page 59 (function).
- [set-exit-key!], page 59 (function).
- [set-mouse-cursor!], page 59 (function).
- [set-target-fps!], page 59 (function).
- [set-texture-filter!], page 59 (function).
- [texture->image], page 59 (function).
- [translate-from-foreign], page 73 (method).
- [translate-from-foreign], page 73 (method).
- [translate-from-foreign], page 73 (method).
- [translate-from-foreign], page 73 (method).
- [translate-from-foreign], page 73 (method).
- [translate-into-foreign-memory], page 73 (method).
- [translate-into-foreign-memory], page 73 (method).
- [translate-into-foreign-memory], page 73 (method).
- [translate-into-foreign-memory], page 73 (method).

- [translate-into-foreign-memory], page 74 (method).
- [unload-image!], page 60 (function).
- [unload-render-texture!], page 60 (function).
- [unload-texture!], page 60 (function).
- [window-close-p], page 60 (function).
- [window-ready-p], page 60 (function).

### Internals

- [begin-drawing-1], page 93 (function).
- [end-drawing-1], page 95 (function).
- [make-trans], page 91 (macro).
- [set-mouse-cursor-1!], page 103 (function).
- [smc/current], page 89 (special variable).
- [type-color], page 108 (class).
- [type-color-p], page 104 (function).
- [type-font], page 108 (class).
- [type-glyph-info], page 108 (class).
- [type-image], page 108 (class).
- [type-rectangle], page 108 (class).
- [type-render-texture], page 109 (class).
- [type-texture], page 109 (class).
- [type-vec2], page 109 (class).

### 2.1.14 gui/gui.lisp

**Source** [gui.asd], page 7.

#### Parent Component

[gui], page 4 (system).

**Packages** [gui], page 38.

#### Public Interface

- [%bmenu], page 49 (function).
- [abtn], page 48 (macro).
- [add-draw-hook], page 49 (function).
- [animate-menu-bg], page 49 (function).
- [capturer], page 76 (class).
- [configure-menu], page 50 (function).
- [current-capturer], page 47 (special variable).
- [current-capturer-can-be-removed-p], page 50 (function).
- [delete-current-capturer!], page 51 (function).
- [initialize-window!], page 55 (function).
- [input-box], page 55 (function).
- [input-box/content-ht], page 47 (special variable).
- [keys-can-be-captured-p], page 55 (function).
- [mainloop-draw-hooks], page 47 (special variable).

- [make-button], page 56 (function).
- [make-button\*], page 56 (function).
- [make-input-box], page 56 (function).
- [maybe-initialize-window!], page 57 (function).
- [menu/bg-dark], page 47 (special variable).
- [menu/bg-light], page 48 (special variable).
- [menu/frame-ctr], page 48 (special variable).
- [menu/frame-ctr-magic], page 48 (special variable).
- [menu/frame-ctr-mod], page 48 (special variable).
- [remove-draw-hook], page 58 (function).
- [set-current-capturer!], page 59 (function).
- [shade-screen], page 59 (function).
- [switch-textures-to], page 59 (function).
- [tb/padx], page 48 (special variable).
- [text-button], page 59 (function).
- [texture-button], page 60 (function).
- [toplevel-console-listener], page 60 (function).
- [unshade-screen], page 60 (function).
- [upy], page 49 (macro).
- [with-continued-mainloop], page 49 (macro).
- [with-scrolling], page 49 (macro).

## Internals

- [+color-grayish-2+], page 87 (special variable).
- [+color-hax0r-green+], page 87 (special variable).
- [capturer-can-be-removed-p], page 105 (reader method).
- [(setf capturer-can-be-removed-p)], page 105 (writer method).
- [capturer-delete], page 105 (reader method).
- [(setf capturer-delete)], page 106 (writer method).
- [f/], page 95 (function).
- [input-box/current], page 88 (special variable).
- [scroll-multiplier], page 89 (special variable).
- [shade--screen], page 103 (function).
- [tb/color-bg], page 89 (special variable).
- [tb/color-bg-hover], page 89 (special variable).
- [tb/color-margin], page 89 (special variable).
- [tb/color-margin-unselected], page 89 (special variable).
- [tb/color-text], page 89 (special variable).
- [toplevel-console], page 104 (function).
- [toplevel-console/capturer], page 89 (special variable).
- [toplevel-console/font-size], page 89 (special variable).
- [toplevel-console/height], page 89 (special variable).
- [toplevel-console/log], page 89 (special variable).
- [toplevel-console/state], page 90 (special variable).
- [unload-textures!], page 104 (function).



### 2.1.15 net/net.lisp

**Source** [net.asd], page 7.

**Parent Component**

[net], page 4 (system).

**Packages** [net], page 40.

**Public Interface**

- [+gdata-type+], page 43 (constant).
- [+hii-type+], page 43 (constant).
- [+invalid-type+], page 43 (constant).
- [+lgame-type+], page 43 (constant).
- [+move-type+], page 43 (constant).
- [+pgame-type+], page 44 (constant).
- [+ping-type+], page 44 (constant).
- [+port+], page 44 (constant).
- [+rdata-type+], page 44 (constant).
- [connect-to-server], page 50 (function).
- [from-s16], page 54 (function).
- [ifz], page 48 (macro).
- [make-client-packet], page 56 (function).
- [maybe-receive-packet], page 57 (function).
- [p2p-connect-and-return-fen-and-side-data], page 58 (function).
- [packet->movedata], page 58 (function).
- [packet->name], page 58 (function).
- [packet-case], page 49 (macro).
- [packet-name->type], page 58 (function).
- [packet-of-type-p], page 58 (function).
- [rdata-packets->string], page 58 (function).
- [rdatas->list], page 58 (function).
- [receive-packet], page 58 (function).
- [receive-packets], page 58 (function).
- [start-server], page 59 (function).
- [string->rdata], page 59 (function).
- [to-s16], page 60 (function).
- [universal-start-server], page 60 (function).
- [write-packets], page 60 (function).

**Internals**

- [if\*], page 91 (macro).
- [make-server-packet], page 99 (function).
- [rdata-packet->string], page 103 (function).
- [receive-nickname], page 103 (function).
- [safe-sref], page 103 (function).
- [start-p2p-server], page 104 (function).
- [write-packet], page 105 (function).

### 2.1.16 fast/fast.lisp

**Source** [fast.asd], page 8.

**Parent Component**  
[fast], page 4 (system).

**Packages** [fast], page 34.

#### Public Interface

- [bit-at], page 50 (function).
- [bit-set-p], page 50 (function).
- [copy-fast-board], page 50 (function).
- [fast-board], page 74 (structure).
- [fast-board-1], page 75 (structure).
- [fast-board->game], page 52 (function).
- [fb-bishop], page 52 (reader).
- [(setf fb-bishop)], page 52 (writer).
- [fb-black], page 52 (reader).
- [(setf fb-black)], page 52 (writer).
- [fb-generate-bishop-moves], page 53 (function).
- [fb-generate-king-area], page 53 (function).
- [fb-generate-king-moves], page 53 (function).
- [fb-generate-knight-moves], page 53 (function).
- [fb-generate-queen-moves], page 53 (function).
- [fb-generate-rook-moves], page 53 (function).
- [fb-king], page 53 (reader).
- [(setf fb-king)], page 53 (writer).
- [fb-knight], page 53 (reader).
- [(setf fb-knight)], page 53 (writer).
- [fb-make-check-board], page 53 (function).
- [fb-pawn], page 53 (reader).
- [(setf fb-pawn)], page 53 (writer).
- [fb-queen], page 54 (reader).
- [(setf fb-queen)], page 54 (writer).
- [fb-rook], page 54 (reader).
- [(setf fb-rook)], page 54 (writer).
- [fb-white], page 54 (reader).
- [(setf fb-white)], page 54 (writer).
- [for-every-bb], page 48 (macro).
- [game->fast-board], page 54 (function).
- [logbitpr], page 49 (macro).
- [lognot64], page 56 (function).

#### Internals

- [copy-fast-board-1], page 94 (function).
- [fast-board-1-p], page 96 (function).

- [fast-board-p], page 96 (function).
- [fb--knight-check-board], page 96 (function).
- [fb--make-color-board], page 96 (function).
- [fb-bck-p], page 96 (reader).
- [(setf fb-bck-p)], page 96 (writer).
- [fb-bcq-p], page 96 (reader).
- [(setf fb-bcq-p)], page 96 (writer).
- [fb-display], page 96 (function).
- [fb-make-black-board], page 96 (function).
- [fb-make-piece-board], page 96 (function).
- [fb-make-white-board], page 96 (function).
- [fb-point], page 91 (macro).
- [fb-ticker], page 97 (reader).
- [(setf fb-ticker)], page 97 (writer).
- [fb-wck-p], page 97 (reader).
- [(setf fb-wck-p)], page 97 (writer).
- [fb-wcq-p], page 97 (reader).
- [(setf fb-wcq-p)], page 97 (writer).
- [fb1-at], page 91 (macro).
- [fb1-set-p], page 91 (macro).
- [make-fast-board], page 99 (function).
- [make-fast-board-1], page 99 (function).
- [pawn-magic-l], page 88 (special variable).
- [pawn-magic-r], page 89 (special variable).
- [set-bit!], page 92 (macro).
- [u64], page 92 (macro).
- [u64-max], page 82 (constant).



## 3 Packages

Packages are listed by definition order.

### 3.1 raylib

**Source** [raylib.lisp], page 17.

#### Use List

- alexandria.
- cffi.
- common-lisp.
- [leszcz-constants], page 33.

#### Used By List

- [gui], page 38.
- [leszcz], page 27.

#### Public Interface

- [\*alagard\*], page 45 (special variable).
- [\*font\*], page 45 (special variable).
- [+cursor-normal+], page 43 (constant).
- [+cursor-pointer+], page 43 (constant).
- [+key-escape+], page 43 (constant).
- [+texture-filter-anisotropic-16x+], page 44 (constant).
- [+texture-filter-anisotropic-4x+], page 44 (constant).
- [+texture-filter-anisotropic-8x+], page 44 (constant).
- [+texture-filter-bilinear+], page 44 (constant).
- [+texture-filter-point+], page 44 (constant).
- [+texture-filter-trilinear+], page 44 (constant).
- [begin-drawing], page 49 (function).
- [begin-scissor-mode], page 49 (function).
- [begin-texture-mode], page 50 (function).
- [clear-background], page 50 (function).
- [close-window], page 50 (function).
- [color], page 82 (type).
- [draw-circle], page 51 (function).
- [draw-fps], page 51 (function).
- [draw-line], page 51 (function).
- [draw-line-1], page 51 (function).
- [draw-rectangle], page 51 (function).
- [draw-rectangle-lines], page 51 (function).
- [draw-rectangle-lines-2], page 51 (function).
- [draw-rectangle-rounded], page 51 (function).
- [draw-text], page 51 (function).
- [draw-text-1], page 51 (function).

- [draw-text-2], page 51 (function).
- [draw-text-alagard], page 52 (function).
- [draw-text-alagard-centered], page 52 (function).
- [draw-text-centered], page 52 (function).
- [draw-texture], page 52 (function).
- [end-drawing], page 52 (function).
- [end-scissor-mode], page 52 (function).
- [end-texture-mode], page 52 (function).
- [floatize], page 54 (function).
- [get-char-pressed], page 54 (function).
- [get-chars-pressed], page 54 (function).
- [get-chars-pressed-1], page 54 (function).
- [image->texture], page 55 (function).
- [init-window], page 55 (function).
- [key-down-p], page 55 (function).
- [key-down-p-1], page 55 (function).
- [key-pressed-p], page 55 (function).
- [key-pressed-p-1], page 55 (function).
- [load-font], page 55 (function).
- [load-font-from-memory], page 55 (function).
- [load-image-from-memory], page 55 (function).
- [load-textures], page 56 (function).
- [make-font], page 56 (function).
- [make-render-texture], page 56 (function).
- [make-texture], page 56 (function).
- [measure-text], page 57 (function).
- [measure-text-1], page 57 (function).
- [mouse-down-p], page 57 (function).
- [mouse-pos], page 57 (function).
- [mouse-pos-1], page 57 (function).
- [mouse-pressed-p], page 57 (function).
- [mouse-released-p], page 57 (function).
- [mouse-x], page 57 (function).
- [mouse-y], page 57 (function).
- [open-url!], page 57 (function).
- [point-in-rect-p], page 58 (function).
- [screen->image], page 58 (function).
- [scroll-delta], page 59 (function).
- [set-exit-key!], page 59 (function).
- [set-mouse-cursor!], page 59 (function).
- [set-target-fps!], page 59 (function).
- [set-texture-filter!], page 59 (function).
- [texture->image], page 59 (function).

- [unload-image!], page 60 (function).
- [unload-render-texture!], page 60 (function).
- [unload-texture!], page 60 (function).
- [window-close-p], page 60 (function).
- [window-ready-p], page 60 (function).

### Internals

- [begin-drawing-1], page 93 (function).
- [end-drawing-1], page 95 (function).
- [make-trans], page 91 (macro).
- [set-mouse-cursor-1!], page 103 (function).
- [smc/current], page 89 (special variable).
- [type-color], page 108 (class).
- [type-color-p], page 104 (function).
- [type-font], page 108 (class).
- [type-glyph-info], page 108 (class).
- [type-image], page 108 (class).
- [type-rectangle], page 108 (class).
- [type-render-texture], page 109 (class).
- [type-texture], page 109 (class).
- [type-vec2], page 109 (class).

## 3.2 leszcz

**Source** [leszcz.lisp], page 8.

### Use List

- alexandria.
- bordeaux-threads.
- cl-ppcre.
- common-lisp.
- [fast], page 34.
- [gui], page 38.
- [leszcz-constants], page 33.
- [leszcz-types], page 36.
- local-time.
- [net], page 40.
- org.shirakumo.file-select.
- [raylib], page 25.

### Public Interface

[main], page 56 (function).

### Internals

- [%ask-uname], page 92 (function).
- [%display-waiting-for-connection], page 92 (function).
- [%game-options-menu], page 92 (function).

- [%host-game-menu], page 92 (function).
- [%info-menu], page 92 (function).
- [%join-game-menu], page 92 (function).
- [%local-player-vs-player], page 93 (function).
- [%main], page 93 (function).
- [%online-host-menu], page 93 (function).
- [%online-join-menu], page 93 (function).
- [%player-vs-alekhine], page 83 (special variable).
- [%player-vs-anand], page 83 (special variable).
- [%player-vs-bot], page 83 (special variable).
- [%player-vs-botvinnik], page 83 (special variable).
- [%player-vs-capablanca], page 84 (special variable).
- [%player-vs-carlsen], page 84 (special variable).
- [%player-vs-caruana], page 84 (special variable).
- [%player-vs-fischer], page 84 (special variable).
- [%player-vs-kasparov], page 84 (special variable).
- [%player-vs-morphy], page 84 (special variable).
- [%player-vs-nakamura], page 84 (special variable).
- [%player-vs-polgarj], page 84 (special variable).
- [%player-vs-tal], page 84 (special variable).
- [%test-main], page 93 (function).
- [\*alekhine-book\*], page 84 (special variable).
- [\*anand-book\*], page 84 (special variable).
- [\*arrow-color\*], page 84 (special variable).
- [\*arrow-last-point\*], page 85 (special variable).
- [\*bonus-table\*], page 85 (special variable).
- [\*book\*], page 85 (special variable).
- [\*book-data\*], page 85 (special variable).
- [\*bot-depth\*], page 85 (special variable).
- [\*botvinnik-book\*], page 85 (special variable).
- [\*capablanca-book\*], page 85 (special variable).
- [\*carlsen-book\*], page 85 (special variable).
- [\*caruana-book\*], page 85 (special variable).
- [\*current-board-evaluation\*], page 85 (special variable).
- [\*current-ping\*], page 85 (special variable).
- [\*current-tooltip\*], page 85 (special variable).
- [\*fischer-book\*], page 86 (special variable).
- [\*kasparov-book\*], page 86 (special variable).
- [\*last-ping-ht\*], page 86 (special variable).
- [\*morphy-book\*], page 86 (special variable).
- [\*nakamura-book\*], page 86 (special variable).
- [\*nerd-p\*], page 86 (special variable).
- [\*opponent-asked-for-takeback-p\*], page 86 (special variable).



- [`*opponent-proposed-draw-p*`], page 86 (special variable).
- [`*polgarj-book*`], page 86 (special variable).
- [`*random-table*`], page 86 (special variable).
- [`*rev-bonus-table*`], page 86 (special variable).
- [`*takeback-position*`], page 86 (special variable).
- [`*tal-book*`], page 87 (special variable).
- [`*threads*`], page 87 (special variable).
- [`+bishop-value+`], page 82 (constant).
- [`+hlm/last-from+`], page 87 (special variable).
- [`+hlm/last-to+`], page 87 (special variable).
- [`+knight-value+`], page 82 (constant).
- [`+pawn-value+`], page 82 (constant).
- [`+queen-value+`], page 82 (constant).
- [`+rook-value+`], page 82 (constant).
- [`algebraic->lst`], page 93 (function).
- [`all*`], page 90 (macro).
- [`ask-for-upgrade-type`], page 93 (function).
- [`base-texture-of`], page 93 (function).
- [`bb->move-lst`], page 93 (function).
- [`cchrp`], page 90 (macro).
- [`cleanup-threads!`], page 93 (function).
- [`cnumpy`], page 90 (macro).
- [`connect-to-master`], page 93 (function).
- [`coords->point`], page 94 (function).
- [`copy-pgn`], page 94 (function).
- [`count-bonuses`], page 94 (function).
- [`count-material-of`], page 94 (function).
- [`dct/size`], page 87 (special variable).
- [`delete-current-tooltip!`], page 94 (function).
- [`display-draw`], page 94 (function).
- [`display-game-finish-menu`], page 94 (function).
- [`display-win`], page 94 (function).
- [`dmh/font-size`], page 87 (special variable).
- [`dmh/height`], page 87 (special variable).
- [`dmh/rect`], page 87 (special variable).
- [`dmh/show`], page 88 (special variable).
- [`dmh/xpad`], page 88 (special variable).
- [`draw-arrow`], page 94 (function).
- [`draw-current-tooltip`], page 94 (function).
- [`draw-game`], page 94 (function).
- [`draw-game-control-buttons`], page 95 (function).
- [`draw-icon`], page 95 (function).
- [`draw-menu-button`], page 95 (function).

- [draw-move-history], page 95 (function).
- [draw-piece], page 95 (function).
- [draw-piece/anim-frame], page 88 (special variable).
- [draw-piece/anim-frame-ticker], page 88 (special variable).
- [draw-piece/piece-on-point], page 88 (special variable).
- [draw-time], page 95 (function).
- [dt/font-size], page 88 (special variable).
- [dta+bgshade], page 95 (function).
- [dts+bgshade], page 95 (function).
- [enposition-moveset], page 95 (function).
- [enumerate], page 91 (macro).
- [evaluate-position], page 95 (function).
- [fb-filter-check-moves], page 91 (macro).
- [fb-filter-check-moves\*], page 91 (macro).
- [fb-point-checked-p], page 97 (function).
- [fb1-king-of], page 97 (function).
- [fen->game], page 97 (function).
- [filter-own-pieces], page 97 (function).
- [game--search], page 97 (function).
- [game->fen], page 97 (function).
- [game-accept-draw], page 97 (function).
- [game-accept-takeback], page 98 (function).
- [game-check-for-mates], page 106 (generic function).
- [game-do-move], page 98 (function).
- [game-main-loop], page 98 (function).
- [game-propose-draw], page 98 (function).
- [game-resign], page 98 (function).
- [game-search], page 98 (function).
- [game-set-fen!], page 98 (function).
- [game-surrender], page 98 (function).
- [game-update-points-cache], page 106 (generic function).
- [game-update-possible-moves-cache], page 106 (generic function).
- [generate-sliding-moves], page 98 (function).
- [gm-book->ht], page 98 (function).
- [gml/ping-ticker], page 88 (special variable).
- [hash-zobrist], page 98 (function).
- [hasp], page 98 (function).
- [highlight-last-move], page 99 (function).
- [highlight-possible-moves], page 99 (function).
- [initialize-game], page 99 (function).
- [king-of], page 99 (function).
- [load-gm-ht], page 99 (function).
- [lst->pos], page 99 (function).

- [make-pgn], page 99 (function).
- [make-player-vs-bot], page 99 (function).
- [maybe-castling-moves], page 99 (function).
- [maybe-catch-all-exceptions], page 91 (macro).
- [maybe-catch-finish], page 91 (macro).
- [maybe-drag], page 100 (function).
- [maybe-drag/capturer], page 88 (special variable).
- [maybe-drag/piece], page 88 (special variable).
- [maybe-draw-arrow], page 100 (function).
- [maybe-draw-eval], page 100 (function).
- [maybe-draw-nerd-stuff], page 100 (function).
- [maybe-move-bot], page 100 (function).
- [maybe-receive-something], page 100 (function).
- [maybe-reverse], page 91 (macro).
- [maybe-set-cursor], page 100 (function).
- [maybe-switch-nerd], page 100 (function).
- [maybe-switch-sides], page 100 (function).
- [maybe-switch-sides/capturer], page 88 (special variable).
- [maybe-trace], page 91 (macro).
- [maybe-trap-floats], page 92 (macro).
- [move->algebraic], page 100 (function).
- [move-possible-p], page 100 (function).
- [normalize], page 100 (function).
- [old--point-checked-p], page 101 (function).
- [pgn], page 106 (structure).
- [pgn-additional-tags], page 101 (reader).
- [(setf pgn-additional-tags)], page 101 (writer).
- [pgn-black], page 101 (reader).
- [(setf pgn-black)], page 101 (writer).
- [pgn-date], page 101 (reader).
- [(setf pgn-date)], page 101 (writer).
- [pgn-event], page 101 (reader).
- [(setf pgn-event)], page 101 (writer).
- [pgn-moves], page 101 (reader).
- [(setf pgn-moves)], page 101 (writer).
- [pgn-p], page 101 (function).
- [pgn-result], page 101 (reader).
- [(setf pgn-result)], page 101 (writer).
- [pgn-round], page 102 (reader).
- [(setf pgn-round)], page 102 (writer).
- [pgn-site], page 102 (reader).
- [(setf pgn-site)], page 102 (writer).
- [pgn-white], page 102 (reader).

- [(setf pgn-white)], page 102 (writer).
- [piece->char], page 102 (function).
- [piece->zobrist-hash-enum], page 102 (function).
- [piece-at-point], page 102 (function).
- [place], page 109 (type).
- [point-checked-p], page 102 (function).
- [pos->lst], page 102 (function).
- [position-of], page 102 (function).
- [possible-moves-for], page 102 (function).
- [pre--possible-moves-for], page 103 (function).
- [pre--possible-moves-for/pawn], page 103 (function).
- [pre--possible-moves-for/upgrade], page 103 (function).
- [print-castle-rules], page 103 (function).
- [read-pgn], page 103 (function).
- [s-begins-with], page 92 (macro).
- [safe-piece-type], page 92 (macro).
- [save-game-to-pgn], page 103 (function).
- [send-ping-to], page 103 (function).
- [set-current-tooltip!], page 92 (macro).
- [show-exception-interactively-and-continue], page 104 (function).
- [show-point-at-cursor], page 104 (function).
- [slow-filter-check-moves], page 104 (function).
- [start-master-server], page 104 (function).
- [type->char], page 104 (function).
- [ut/make-texture-lambda], page 104 (function).
- [ut/pad-size], page 90 (special variable).
- [ut/upgrade-bishop-texture], page 90 (special variable).
- [ut/upgrade-knight-texture], page 90 (special variable).
- [ut/upgrade-queen-texture], page 90 (special variable).
- [ut/upgrade-rook-texture], page 90 (special variable).
- [ut/upgrade-size], page 90 (special variable).
- [v2+], page 104 (function).
- [v2-], page 104 (function).
- [vmax], page 105 (function).
- [vmin], page 105 (function).
- [z-black-bishop], page 82 (constant).
- [z-black-king], page 82 (constant).
- [z-black-knight], page 82 (constant).
- [z-black-pawn], page 82 (constant).
- [z-black-queen], page 83 (constant).
- [z-black-rook], page 83 (constant).
- [z-maybe-en-passant], page 105 (function).
- [z-white-bishop], page 83 (constant).

- [z-white-king], page 83 (constant).
- [z-white-knight], page 83 (constant).
- [z-white-pawn], page 83 (constant).
- [z-white-queen], page 83 (constant).
- [z-white-rook], page 83 (constant).

### 3.3 leszcz-constants

**Source** [leszcz-constants.lisp], page 15.

**Use List**

- alexandria.
- common-lisp.

**Used By List**

- [fast], page 34.
- [gui], page 38.
- [leszcz], page 27.
- [leszcz-types], page 36.
- [net], page 40.
- [raylib], page 25.

**Public Interface**

- [\*board-begin\*], page 45 (special variable).
- [\*board-size\*], page 45 (special variable).
- [\*color-bg-dark\*], page 45 (special variable).
- [\*color-bg-light\*], page 45 (special variable).
- [\*current-game\*], page 45 (special variable).
- [\*current-screen\*], page 45 (special variable).
- [\*debug\*], page 45 (special variable).
- [\*online-host\*], page 45 (special variable).
- [\*prod\*], page 45 (special variable).
- [\*window-height\*], page 45 (special variable).
- [\*window-hpad\*], page 46 (special variable).
- [\*window-width\*], page 46 (special variable).
- [\*window-wpad\*], page 46 (special variable).
- [+color-black+], page 46 (special variable).
- [+color-grayish+], page 46 (special variable).
- [+color-greenish+], page 46 (special variable).
- [+color-purple+], page 46 (special variable).
- [+color-redish+], page 46 (special variable).
- [+color-white+], page 46 (special variable).
- [+inf], page 43 (constant).
- [+initial-fen+], page 43 (constant).
- [+piece-size+], page 46 (special variable).
- [+texture-size+], page 46 (special variable).

- [-inf], page 44 (constant).
- [alagard-data], page 46 (special variable).
- [bishop], page 76 (slot).
- [black], page 74 (slot).
- [black], page 107 (slot).
- [black-texture-alist], page 47 (special variable).
- [black-texture-data-list], page 47 (special variable).
- [file->vec], page 54 (function).
- [finalize-condition], page 74 (condition).
- [icon-data-alist], page 47 (special variable).
- [icon-texture-alist], page 47 (special variable).
- [king], page 76 (slot).
- [knight], page 75 (slot).
- [leszcz-logos-alist], page 47 (special variable).
- [let-values], page 49 (macro).
- [license-text-1], page 47 (special variable).
- [license-text-2], page 47 (special variable).
- [logo-data-alist], page 47 (special variable).
- [pawn], page 75 (slot).
- [queen], page 76 (slot).
- [rook], page 75 (slot).
- [spleen-data], page 48 (special variable).
- [texture-options], page 48 (special variable).
- [white], page 74 (slot).
- [white], page 107 (slot).
- [white-texture-alist], page 48 (special variable).
- [white-texture-data-list], page 48 (special variable).

### Internals

- [black-texture-data-list-pixel], page 87 (special variable).
- [black-texture-data-list-sleek], page 87 (special variable).
- [white-texture-data-list-pixel], page 90 (special variable).
- [white-texture-data-list-sleek], page 90 (special variable).

## 3.4 fast

**Source** [fast.lisp], page 22.

### Use List

- alexandria.
- cl-ppcre.
- common-lisp.
- [leszcz-constants], page 33.
- [leszcz-types], page 36.

### Used By List

- [leszcz], page 27.

- [net], page 40.

### Public Interface

- [bit-at], page 50 (function).
- [bit-set-p], page 50 (function).
- [copy-fast-board], page 50 (function).
- [fast-board], page 74 (structure).
- [fast-board-1], page 75 (structure).
- [fast-board->game], page 52 (function).
- [fb-bishop], page 52 (reader).
- [(setf fb-bishop)], page 52 (writer).
- [fb-black], page 52 (reader).
- [(setf fb-black)], page 52 (writer).
- [fb-generate-bishop-moves], page 53 (function).
- [fb-generate-king-area], page 53 (function).
- [fb-generate-king-moves], page 53 (function).
- [fb-generate-knight-moves], page 53 (function).
- [fb-generate-queen-moves], page 53 (function).
- [fb-generate-rook-moves], page 53 (function).
- [fb-king], page 53 (reader).
- [(setf fb-king)], page 53 (writer).
- [fb-knight], page 53 (reader).
- [(setf fb-knight)], page 53 (writer).
- [fb-make-check-board], page 53 (function).
- [fb-pawn], page 53 (reader).
- [(setf fb-pawn)], page 53 (writer).
- [fb-queen], page 54 (reader).
- [(setf fb-queen)], page 54 (writer).
- [fb-rook], page 54 (reader).
- [(setf fb-rook)], page 54 (writer).
- [fb-white], page 54 (reader).
- [(setf fb-white)], page 54 (writer).
- [for-every-bb], page 48 (macro).
- [game->fast-board], page 54 (function).
- [logbitpr], page 49 (macro).
- [lognot64], page 56 (function).

### Internals

- [copy-fast-board-1], page 94 (function).
- [fast-board-1-p], page 96 (function).
- [fast-board-p], page 96 (function).
- [fb--knight-check-board], page 96 (function).
- [fb--make-color-board], page 96 (function).
- [fb-bck-p], page 96 (reader).

- [(setf fb-bck-p)], page 96 (writer).
- [fb-bcq-p], page 96 (reader).
- [(setf fb-bcq-p)], page 96 (writer).
- [fb-display], page 96 (function).
- [fb-make-black-board], page 96 (function).
- [fb-make-piece-board], page 96 (function).
- [fb-make-white-board], page 96 (function).
- [fb-point], page 91 (macro).
- [fb-ticker], page 97 (reader).
- [(setf fb-ticker)], page 97 (writer).
- [fb-wck-p], page 97 (reader).
- [(setf fb-wck-p)], page 97 (writer).
- [fb-wcq-p], page 97 (reader).
- [(setf fb-wcq-p)], page 97 (writer).
- [fb1-at], page 91 (macro).
- [fb1-set-p], page 91 (macro).
- [make-fast-board], page 99 (function).
- [make-fast-board-1], page 99 (function).
- [pawn-magic-l], page 88 (special variable).
- [pawn-magic-r], page 89 (special variable).
- [set-bit!], page 92 (macro).
- [u64], page 92 (macro).
- [u64-max], page 82 (constant).

### 3.5 leszcz-types

**Source** [leszcz-types.lisp], page 14.

#### Use List

- common-lisp.
- [leszcz-constants], page 33.
- local-time.

#### Used By List

- [fast], page 34.
- [gui], page 38.
- [leszcz], page 27.
- [net], page 40.

#### Public Interface

- [blackp], page 50 (function).
- [copy-game], page 50 (function).
- [copy-piece], page 50 (function).
- [game], page 77 (class).
- [game->pgn], page 61 (generic function).
- [game-black-can-castle-kingside-p], page 61 (generic reader).



- [(setf game-black-can-castle-kingside-p)], page 61 (generic writer).
- [game-black-can-castle-queenside-p], page 61 (generic reader).
- [(setf game-black-can-castle-queenside-p)], page 61 (generic writer).
- [game-connection], page 62 (generic reader).
- [(setf game-connection)], page 62 (generic writer).
- [game-en-passant-target-square], page 62 (generic reader).
- [(setf game-en-passant-target-square)], page 62 (generic writer).
- [game-fb], page 63 (generic reader).
- [(setf game-fb)], page 63 (generic writer).
- [game-fullmove-clock], page 63 (generic reader).
- [(setf game-fullmove-clock)], page 63 (generic writer).
- [game-halfmove-clock], page 63 (generic reader).
- [(setf game-halfmove-clock)], page 64 (generic writer).
- [game-in-progress-p], page 64 (generic function).
- [game-interactive-p], page 64 (generic reader).
- [(setf game-interactive-p)], page 64 (generic writer).
- [game-move-history], page 64 (generic reader).
- [(setf game-move-history)], page 65 (generic writer).
- [game-opponent-username], page 65 (generic reader).
- [(setf game-opponent-username)], page 65 (generic writer).
- [game-pieces], page 65 (generic reader).
- [(setf game-pieces)], page 65 (generic writer).
- [game-points-cache], page 66 (generic reader).
- [(setf game-points-cache)], page 66 (generic writer).
- [game-possible-moves-cache], page 66 (generic reader).
- [(setf game-possible-moves-cache)], page 66 (generic writer).
- [game-result], page 66 (generic reader).
- [(setf game-result)], page 67 (generic writer).
- [game-side], page 67 (generic reader).
- [(setf game-side)], page 67 (generic writer).
- [game-tick], page 67 (generic function).
- [game-ticker], page 67 (generic reader).
- [(setf game-ticker)], page 68 (generic writer).
- [game-time-begin-turn], page 68 (generic reader).
- [(setf game-time-begin-turn)], page 68 (generic writer).
- [game-time-black], page 68 (generic reader).
- [(setf game-time-black)], page 69 (generic writer).
- [game-time-white], page 69 (generic reader).
- [(setf game-time-white)], page 69 (generic writer).
- [game-turn], page 69 (generic function).
- [game-turn-black-p], page 69 (generic function).
- [game-turn-white-p], page 69 (generic function).
- [game-white-can-castle-kingside-p], page 70 (generic reader).

- [(setf game-white-can-castle-kingside-p)], page 70 (generic writer).
- [game-white-can-castle-queenside-p], page 70 (generic reader).
- [(setf game-white-can-castle-queenside-p)], page 70 (generic writer).
- [piece], page 80 (class).
- [piece-color], page 71 (generic reader).
- [(setf piece-color)], page 71 (generic writer).
- [piece-point], page 71 (generic reader).
- [(setf piece-point)], page 71 (generic writer).
- [piece-type], page 71 (generic reader).
- [(setf piece-type)], page 72 (generic writer).
- [point], page 81 (class).
- [point-x], page 72 (generic reader).
- [(setf point-x)], page 72 (generic writer).
- [point-y], page 72 (generic reader).
- [(setf point-y)], page 72 (generic writer).
- [whitep], page 60 (function).

### 3.6 gui

**Source** [gui.lisp], page 19.

#### Use List

- alexandria.
- cl-ppcre.
- common-lisp.
- [leszcz-constants], page 33.
- [leszcz-types], page 36.
- [raylib], page 25.

#### Used By List

[leszcz], page 27.

#### Public Interface

- [%bmenu], page 49 (function).
- [abtn], page 48 (macro).
- [add-draw-hook], page 49 (function).
- [animate-menu-bg], page 49 (function).
- [capturer], page 76 (class).
- [configure-menu], page 50 (function).
- [current-capturer], page 47 (special variable).
- [current-capturer-can-be-removed-p], page 50 (function).
- [delete-current-capturer!], page 51 (function).
- [initialize-window!], page 55 (function).
- [input-box], page 55 (function).
- [input-box/content-ht], page 47 (special variable).
- [keys-can-be-captured-p], page 55 (function).

- [mainloop-draw-hooks], page 47 (special variable).
- [make-button], page 56 (function).
- [make-button\*], page 56 (function).
- [make-input-box], page 56 (function).
- [maybe-initialize-window!], page 57 (function).
- [menu/bg-dark], page 47 (special variable).
- [menu/bg-light], page 48 (special variable).
- [menu/frame-ctr], page 48 (special variable).
- [menu/frame-ctr-magic], page 48 (special variable).
- [menu/frame-ctr-mod], page 48 (special variable).
- [remove-draw-hook], page 58 (function).
- [set-current-capturer!], page 59 (function).
- [shade-screen], page 59 (function).
- [switch-textures-to], page 59 (function).
- [tb/padx], page 48 (special variable).
- [text-button], page 59 (function).
- [texture-button], page 60 (function).
- [toplevel-console-listener], page 60 (function).
- [unshade-screen], page 60 (function).
- [upy], page 49 (macro).
- [with-continued-mainloop], page 49 (macro).
- [with-scrolling], page 49 (macro).

### Internals

- [+color-grayish-2+], page 87 (special variable).
- [+color-hax0r-green+], page 87 (special variable).
- [capturer-can-be-removed-p], page 105 (generic reader).
- [(setf capturer-can-be-removed-p)], page 105 (generic writer).
- [capturer-delete], page 105 (generic reader).
- [(setf capturer-delete)], page 106 (generic writer).
- [f/], page 95 (function).
- [input-box/current], page 88 (special variable).
- [scroll-multiplier], page 89 (special variable).
- [shade--screen], page 103 (function).
- [tb/color-bg], page 89 (special variable).
- [tb/color-bg-hover], page 89 (special variable).
- [tb/color-margin], page 89 (special variable).
- [tb/color-margin-unselected], page 89 (special variable).
- [tb/color-text], page 89 (special variable).
- [toplevel-console], page 104 (function).
- [toplevel-console/capturer], page 89 (special variable).
- [toplevel-console/font-size], page 89 (special variable).
- [toplevel-console/height], page 89 (special variable).

- [toplevel-console/log], page 89 (special variable).
- [toplevel-console/state], page 90 (special variable).
- [unload-textures!], page 104 (function).

### 3.7 net

**Source** [net.lisp], page 21.

#### Use List

- alexandria.
- cl-ppcre.
- common-lisp.
- [fast], page 34.
- [leszcz-constants], page 33.
- [leszcz-types], page 36.
- usocket.

#### Used By List

[leszcz], page 27.

#### Public Interface

- [+gdata-type+], page 43 (constant).
- [+hii-type+], page 43 (constant).
- [+invalid-type+], page 43 (constant).
- [+lgames-type+], page 43 (constant).
- [+move-type+], page 43 (constant).
- [+pgame-type+], page 44 (constant).
- [+ping-type+], page 44 (constant).
- [+port+], page 44 (constant).
- [+rdata-type+], page 44 (constant).
- [connect-to-server], page 50 (function).
- [from-s16], page 54 (function).
- [ifz], page 48 (macro).
- [make-client-packet], page 56 (function).
- [maybe-receive-packet], page 57 (function).
- [p2p-connect-and-return-fen-and-side-data], page 58 (function).
- [packet->movedata], page 58 (function).
- [packet->name], page 58 (function).
- [packet-case], page 49 (macro).
- [packet-name->type], page 58 (function).
- [packet-of-type-p], page 58 (function).
- [rdata-packets->string], page 58 (function).
- [rdatas->list], page 58 (function).
- [receive-packet], page 58 (function).
- [receive-packets], page 58 (function).
- [start-server], page 59 (function).

- [string->rdata], page 59 (function).
- [to-s16], page 60 (function).
- [universal-start-server], page 60 (function).
- [write-packets], page 60 (function).

### Internals

- [if\*], page 91 (macro).
- [make-server-packet], page 99 (function).
- [rdata-packet->string], page 103 (function).
- [receive-nickname], page 103 (function).
- [safe-sref], page 103 (function).
- [start-p2p-server], page 104 (function).
- [write-packet], page 105 (function).



## 4 Definitions

Definitions are sorted by export status, category, package, and then by lexicographic order.

### 4.1 Public Interface

#### 4.1.1 Constants

|   |            |
|---|------------|
| <code>+cursor-normal+</code>                    | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <code>+cursor-pointer+</code>                   | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <code>+gdata-type+</code>                       | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <code>+hii-type+</code>                         | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <code>+inf</code>                               | [Constant] |
| <b>Package</b> [leszcz-constants], page 33.     |            |
| <b>Source</b> [leszcz-constants.lisp], page 15. |            |
| <code>+initial-fen+</code>                      | [Constant] |
| <b>Package</b> [leszcz-constants], page 33.     |            |
| <b>Source</b> [leszcz-constants.lisp], page 15. |            |
| <code>+invalid-type+</code>                     | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <code>+key-escape+</code>                       | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <code>+lgames-type+</code>                      | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <code>+move-type+</code>                        | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |

|   |            |
|---|------------|
| <b>+pgame-type+</b>                             | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <b>+ping-type+</b>                              | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <b>+port+</b>                                   | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <b>+rdata-type+</b>                             | [Constant] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| <b>+texture-filter-anisotropic-16x+</b>         | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <b>+texture-filter-anisotropic-4x+</b>          | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <b>+texture-filter-anisotropic-8x+</b>          | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <b>+texture-filter-bilinear+</b>                | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <b>+texture-filter-point+</b>                   | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <b>+texture-filter-trilinear+</b>               | [Constant] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| <b>-inf</b>                                     | [Constant] |
| <b>Package</b> [leszcz-constants], page 33.     |            |
| <b>Source</b> [leszcz-constants.lisp], page 15. |            |



### 4.1.2 Special variables

|   |                    |
|---|--------------------|
| <b>*alagard*</b>                                | [Special Variable] |
| <b>Package</b> [raylib], page 25.               |                    |
| <b>Source</b> [raylib.lisp], page 17.           |                    |
| <b>*board-begin*</b>                            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*board-size*</b>                             | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*color-bg-dark*</b>                          | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*color-bg-light*</b>                         | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*current-game*</b>                           | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>*current-screen*</b>                         | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>*debug*</b>                                  | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*font*</b>                                   | [Special Variable] |
| <b>Package</b> [raylib], page 25.               |                    |
| <b>Source</b> [raylib.lisp], page 17.           |                    |
| <b>*online-host*</b>                            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*prod*</b>                                   | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*window-height*</b>                          | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |

|   |                    |
|---|--------------------|
| <b>*window-hpad*</b>                            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*window-width*</b>                           | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>*window-wpad*</b>                            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+color-black+</b>                            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+color-grayish+</b>                          | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+color-greenish+</b>                         | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+color-purple+</b>                           | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+color-redish+</b>                           | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+color-white+</b>                            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+piece-size+</b>                             | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>+texture-size+</b>                           | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>alagard-data</b>                             | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |

|   |                    |
|---|--------------------|
| <code>black-texture-alist</code>                | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>black-texture-data-list</code>            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>current-capturer</code>                   | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| <code>icon-data-alist</code>                    | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>icon-texture-alist</code>                 | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>input-box/content-ht</code>               | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| <code>leszcz-logos-alist</code>                 | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>license-text-1</code>                     | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>license-text-2</code>                     | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>logo-data-alist</code>                    | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <code>mainloop-draw-hooks</code>                | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| <code>menu/bg-dark</code>                       | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |

|   |                    |
|---|--------------------|
| menu/bg-light                                   | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| menu/frame-ctr                                  | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| menu/frame-ctr-magic                            | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| menu/frame-ctr-mod                              | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| spleen-data                                     | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| tb/padx   | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| texture-options                                 | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| white-texture-alist                             | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| white-texture-data-list                         | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |

### 4.1.3 Macros

|   |         |
|---|---------|
| abtn (&rest <i>r</i> )                      | [Macro] |
| <b>Package</b> [gui], page 38.              |         |
| <b>Source</b> [gui.lisp], page 19.          |         |
| for-every-bb ( <i>as n</i> &body <i>b</i> ) | [Macro] |
| <b>Package</b> [fast], page 34.             |         |
| <b>Source</b> [fast.lisp], page 22.         |         |
| ifz ( <i>a b</i> )                          | [Macro] |
| <b>Package</b> [net], page 40.              |         |
| <b>Source</b> [net.lisp], page 21.          |         |

|   |         |
|---|---------|
| <code>let-values</code> ( <i>bindings</i> <b>&amp;body</b> <i>b</i> )                 | [Macro] |
| <b>Package</b> [leszcz-constants], page 33.   |         |
| <b>Source</b> [leszcz-constants.lisp], page 15.                                       |         |
| <code>logbitpr</code> ( <i>n bit</i> <b>&amp;key</b> <i>type-size</i> )               | [Macro] |
| <b>Package</b> [fast], page 34.   |         |
| <b>Source</b> [fast.lisp], page 22.   |         |
| <code>packet-case</code> ( <i>p</i> <b>&amp;body</b> <i>cases</i> )                   | [Macro] |
| <b>Package</b> [net], page 40.  |         |
| <b>Source</b> [net.lisp], page 21.  |         |
| <code>thread</code> ( <i>name</i> <b>&amp;body</b> <i>b</i> )                         | [Macro] |
| <b>Package</b> bordeaux-threads.  |         |
| <b>Source</b> [leszcz.lisp], page 8.  |         |
| <code>upy</code> ( <i>y-sym height pad</i> <b>&amp;body</b> <i>b</i> )                | [Macro] |
| <b>Package</b> [gui], page 38.  |         |
| <b>Source</b> [gui.lisp], page 19.  |         |
| <code>with-continued-mainloop</code> ( <i>cont resume</i> <b>&amp;body</b> <i>b</i> ) | [Macro] |
| <b>Package</b> [gui], page 38.  |         |
| <b>Source</b> [gui.lisp], page 19.  |         |
| <code>with-scrolling</code> ( <i>sym y</i> <b>&amp;body</b> <i>b</i> )                | [Macro] |
| <b>Package</b> [gui], page 38.  |         |
| <b>Source</b> [gui.lisp], page 19.  |         |

#### 4.1.4 Ordinary functions

|   |            |
|---|------------|
| <code>%bmenu</code> ( <i>title resume buttons</i> ) | [Function] |
| <b>Package</b> [gui], page 38.                      |            |
| <b>Source</b> [gui.lisp], page 19.                  |            |
| <code>add-draw-hook</code> ( <i>fn</i> )            | [Function] |
| <b>Package</b> [gui], page 38.                      |            |
| <b>Source</b> [gui.lisp], page 19.                  |            |
| <code>animate-menu-bg</code> ()                     | [Function] |
| <b>Package</b> [gui], page 38.                      |            |
| <b>Source</b> [gui.lisp], page 19.                  |            |
| <code>begin-drawing</code> ()                       | [Function] |
| <b>Package</b> [raylib], page 25.                   |            |
| <b>Source</b> [raylib.lisp], page 17.               |            |
| <code>begin-scissor-mode</code> ( <i>x y w h</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.                   |            |
| <b>Source</b> [raylib.lisp], page 17.               |            |

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| <code>begin-texture-mode</code> ( <i>txt</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>bit-at</code> ( <i>n bit &amp;key type-size</i> )                                    | [Function] |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <code>bit-set-p</code> ( <i>n bit &amp;key type-size</i> )                                 | [Function] |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <code>blackp</code> ( <i>p</i> )   | [Function] |
| <b>Package</b> [leszcz-types], page 36.  |            |
| <b>Source</b> [leszcz-types.lisp], page 14.  |            |
| <code>clear-background</code> ( <i>color</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>close-window</code> ()   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>configure-menu</code> ()   | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>connect-to-server</code> ( <i>ip-or-conn nickname &amp;key port online-handler</i> ) | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.   |            |
| <code>copy-fast-board</code> ( <i>fb</i> )   | [Function] |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <code>copy-game</code> ( <i>g</i> )  | [Function] |
| <b>Package</b> [leszcz-types], page 36.  |            |
| <b>Source</b> [leszcz-types.lisp], page 14.  |            |
| <code>copy-piece</code> ( <i>p</i> )   | [Function] |
| <b>Package</b> [leszcz-types], page 36.  |            |
| <b>Source</b> [leszcz-types.lisp], page 14.  |            |
| <code>current-capturer-can-be-removed-p</code> ()  | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |

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|--|------------|
| <code>delete-current-capturer! ()</code>                           | [Function] |
| <b>Package</b> [gui], page 38.                                     |            |
| <b>Source</b> [gui.lisp], page 19.                                 |            |
| <code>draw-circle (x y rad color)</code>                           | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-fps (x y)</code>  | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-line (x1 y1 x2 y2 c)</code>                             | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-line-1 (start end thick color)</code>                   | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-rectangle (x y w h c)</code>                            | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-rectangle-lines (x y w h c)</code>                      | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-rectangle-lines-2 (rec thick color)</code>              | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-rectangle-rounded (rec roundness segments color)</code> | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-text (text x y font-size color)</code>                  | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-text-1 (text x y font-size color)</code>                | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |
| <code>draw-text-2 (font text pos font-size spacing color)</code>   | [Function] |
| <b>Package</b> [raylib], page 25.                                  |            |
| <b>Source</b> [raylib.lisp], page 17.                              |            |

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|--|------------|
| <code>draw-text-alagard</code> ( <i>text x y font-size color</i> )                 | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>draw-text-alagard-centered</code> ( <i>text center-x y font-size color</i> ) | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>draw-text-centered</code> ( <i>text center-x y font-size color</i> )         | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>draw-texture</code> ( <i>texture src dst origin rotation tint</i> )          | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>end-drawing</code> ()  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>end-scissor-mode</code> ()   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>end-texture-mode</code> ()   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>fast-board-&gt;game</code> ( <i>fb</i> )                                     | [Function] |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <code>fb-bishop</code> ( <i>instance</i> )   | [Reader]   |
| <code>(setf fb-bishop)</code> ( <i>instance</i> )                                  | [Writer]   |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <b>Target Slot</b>   |            |
| [bishop], page 76.   |            |
| <code>fb-black</code> ( <i>instance</i> )  | [Reader]   |
| <code>(setf fb-black)</code> ( <i>instance</i> )                                   | [Writer]   |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <b>Target Slot</b>   |            |
| [black], page 74.  |            |



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|---|------------|
| <code>fb-generate-bishop-moves</code> ( <i>fb px py color</i> ) | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-generate-king-area</code> ( <i>px py</i> )             | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-generate-king-moves</code> ( <i>fb px py color</i> )   | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-generate-knight-moves</code> ( <i>fb px py color</i> ) | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-generate-queen-moves</code> ( <i>fb px py color</i> )  | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-generate-rook-moves</code> ( <i>fb px py color</i> )   | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-king</code> ( <i>instance</i> )                        | [Reader]   |
| <code>(setf fb-king)</code> ( <i>instance</i> )                 | [Writer]   |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <b>Target Slot</b>  |            |
| [king], page 76.  |            |
| <code>fb-knight</code> ( <i>instance</i> )                      | [Reader]   |
| <code>(setf fb-knight)</code> ( <i>instance</i> )               | [Writer]   |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <b>Target Slot</b>  |            |
| [knight], page 75.  |            |
| <code>fb-make-check-board</code> ( <i>fb color</i> )            | [Function] |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <code>fb-pawn</code> ( <i>instance</i> )                        | [Reader]   |
| <code>(setf fb-pawn)</code> ( <i>instance</i> )                 | [Writer]   |
| <b>Package</b> [fast], page 34.                                 |            |
| <b>Source</b> [fast.lisp], page 22.                             |            |
| <b>Target Slot</b>  |            |
| [pawn], page 75.  |            |

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| fb-queen ( <i>instance</i> )                    | [Reader]   |
| (setf fb-queen) ( <i>instance</i> )             | [Writer]   |
| <b>Package</b> [fast], page 34.                 |            |
| <b>Source</b> [fast.lisp], page 22.             |            |
| <b>Target Slot</b>                              |            |
| [queen], page 76.                               |            |
| fb-rook ( <i>instance</i> )                     | [Reader]   |
| (setf fb-rook) ( <i>instance</i> )              | [Writer]   |
| <b>Package</b> [fast], page 34.                 |            |
| <b>Source</b> [fast.lisp], page 22.             |            |
| <b>Target Slot</b>                              |            |
| [rook], page 75.                                |            |
| fb-white ( <i>instance</i> )                    | [Reader]   |
| (setf fb-white) ( <i>instance</i> )             | [Writer]   |
| <b>Package</b> [fast], page 34.                 |            |
| <b>Source</b> [fast.lisp], page 22.             |            |
| <b>Target Slot</b>                              |            |
| [white], page 74.                               |            |
| file->vec ( <i>fname</i> )                      | [Function] |
| <b>Package</b> [leszcz-constants], page 33.     |            |
| <b>Source</b> [leszcz-constants.lisp], page 15. |            |
| floatize ( <i>l</i> )                           | [Function] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| from-s16 ( <i>b1 b2</i> )                       | [Function] |
| <b>Package</b> [net], page 40.                  |            |
| <b>Source</b> [net.lisp], page 21.              |            |
| game->fast-board ( <i>g</i> )                   | [Function] |
| <b>Package</b> [fast], page 34.                 |            |
| <b>Source</b> [fast.lisp], page 22.             |            |
| get-char-pressed ()                             | [Function] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| get-chars-pressed ()                            | [Function] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |
| get-chars-pressed-1 ()                          | [Function] |
| <b>Package</b> [raylib], page 25.               |            |
| <b>Source</b> [raylib.lisp], page 17.           |            |

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| <code>image-&gt;texture</code> ( <i>img</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>init-window</code> ( <i>width height title</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>initialize-window!</code> ()   | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>input-box</code> ( <i>id x* y* w* h* &amp;key font-size text-draw-fn</i> )                           | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>key-down-p</code> ( <i>ch</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>key-down-p-1</code> ( <i>c</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>key-pressed-p</code> ( <i>ch</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>key-pressed-p-1</code> ( <i>c</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>keys-can-be-captured-p</code> ( <i>self</i> )  | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>load-font</code> ( <i>data size &amp;key type loaded-font-hash</i> )                                 | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>load-font-from-memory</code> ( <i>type data data-size font-size codepoints<br/>codepoint-count</i> ) | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>load-image-from-memory</code> ( <i>type data data-size</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |

- `load-textures ()` [Function]  
**Package** [raylib], page 25.  
**Source** [raylib.lisp], page 17.
- `lognot64 (a)` [Function]  
**Package** [fast], page 34.  
**Source** [fast.lisp], page 22.
- `main ()` [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `make-button (text-or-texture &key height width background-color  
font-data font-hash text-draw-fn no-pad no-bg)` [Function]  
**Package** [gui], page 38.  
**Source** [gui.lisp], page 19.
- `make-button* (text-or-texture &key height width background-color  
identifier font-data font-hash text-draw-fn no-pad no-bg)` [Function]  
**Package** [gui], page 38.  
**Source** [gui.lisp], page 19.
- `make-client-packet (type &key hii-nickname move-x1 move-y1 move-x2  
move-y2 move-upgrade-type move-upgrade-p gdata-drawp gdata-draw-ok  
gdata-surrender gdata-eval gdata-eval-data gdata-takeback-p  
gdata-takeback-ok gdata-takeback-ok-ok gdata-takeback-ok-fen gdata-uname  
gdata-bail-out ping-payload ping-response-p ping-wakeup pgame-nick)` [Function]  
**Package** [net], page 40.  
**Source** [net.lisp], page 21.
- `make-font (font-data data-type font-size n-codepoints)` [Function]  
**Package** [raylib], page 25.  
**Source** [raylib.lisp], page 17.
- `make-input-box (id &key height width font-data font-hash text-draw-fn  
default-value)` [Function]  
**Package** [gui], page 38.  
**Source** [gui.lisp], page 19.
- `make-render-texture (width height)` [Function]  
**Package** [raylib], page 25.  
**Source** [raylib.lisp], page 17.
- `make-texture (texture-data data-type)` [Function]  
**Package** [raylib], page 25.  
**Source** [raylib.lisp], page 17.

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| <code>maybe-initialize-window! ()</code>                  | [Function] |
| <b>Package</b> [gui], page 38.                            |            |
| <b>Source</b> [gui.lisp], page 19.                        |            |
| <code>maybe-receive-packet (conn)</code>                  | [Function] |
| <b>Package</b> [net], page 40.                            |            |
| <b>Source</b> [net.lisp], page 21.                        |            |
| <code>measure-text (font text font-size spacing)</code>   | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>measure-text-1 (font text font-size spacing)</code> | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-down-p (b)</code>                             | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-pos ()</code>                                 | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-pos-1 ()</code>                               | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-pressed-p (b)</code>                          | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-released-p (b)</code>                         | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-x ()</code>                                   | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>mouse-y ()</code>                                   | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |
| <code>open-url! (s)</code>                                | [Function] |
| <b>Package</b> [raylib], page 25.                         |            |
| <b>Source</b> [raylib.lisp], page 17.                     |            |

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| <code>p2p-connect-and-return-fen-and-side-data</code> ( <i>conn</i> ) | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>packet-&gt;movedata</code> ( <i>p</i> )                         | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>packet-&gt;name</code> ( <i>p</i> )                             | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>packet-name-&gt;type</code> ( <i>sym</i> )                      | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>packet-of-type-p</code> ( <i>packet type</i> )                  | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>point-in-rect-p</code> ( <i>point rec</i> )                     | [Function] |
| <b>Package</b> [raylib], page 25.                                     |            |
| <b>Source</b> [raylib.lisp], page 17.                                 |            |
| <code>rdata-packets-&gt;string</code> ( <i>ps</i> )                   | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>rdatas-&gt;list</code> ( <i>lst</i> )                           | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>receive-packet</code> ( <i>conn</i> )                           | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>receive-packets</code> ( <i>conn n</i> )                        | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.                                    |            |
| <code>remove-draw-hook</code> ( <i>name</i> )                         | [Function] |
| <b>Package</b> [gui], page 38.  |            |
| <b>Source</b> [gui.lisp], page 19.                                    |            |
| <code>screen-&gt;image</code> ()                                      | [Function] |
| <b>Package</b> [raylib], page 25.                                     |            |
| <b>Source</b> [raylib.lisp], page 17.                                 |            |

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| <code>scroll-delta ()</code>  | [Function] |
| <b>Package</b> [raylib], page 25.   |            |
| <b>Source</b> [raylib.lisp], page 17.   |            |
| <code>set-current-capturer! (c)</code>  | [Function] |
| <b>Package</b> [gui], page 38.  |            |
| <b>Source</b> [gui.lisp], page 19.  |            |
| <code>set-exit-key! (k)</code>  | [Function] |
| <b>Package</b> [raylib], page 25.   |            |
| <b>Source</b> [raylib.lisp], page 17.   |            |
| <code>set-mouse-cursor! (cursor &amp;key begin finalize)</code>                         | [Function] |
| <b>Package</b> [raylib], page 25.   |            |
| <b>Source</b> [raylib.lisp], page 17.   |            |
| <code>set-target-fps! (fps)</code>  | [Function] |
| <b>Package</b> [raylib], page 25.   |            |
| <b>Source</b> [raylib.lisp], page 17.   |            |
| <code>set-texture-filter! (texture filter)</code>                                       | [Function] |
| <b>Package</b> [raylib], page 25.   |            |
| <b>Source</b> [raylib.lisp], page 17.   |            |
| <code>shade-screen (screen n-frames &amp;key flip)</code>                               | [Function] |
| <b>Package</b> [gui], page 38.  |            |
| <b>Source</b> [gui.lisp], page 19.  |            |
| <code>start-server (game-handler &amp;key mode fork fen opponent-side port time)</code> | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.  |            |
| <code>string-&gt;rdata (s)</code>   | [Function] |
| <b>Package</b> [net], page 40.  |            |
| <b>Source</b> [net.lisp], page 21.  |            |
| <code>switch-textures-to (sym)</code>   | [Function] |
| <b>Package</b> [gui], page 38.  |            |
| <b>Source</b> [gui.lisp], page 19.  |            |
| <code>text-button (x* y* w* h* text text-width &amp;key font-size text-draw-fn)</code>  | [Function] |
| <b>Package</b> [gui], page 38.  |            |
| <b>Source</b> [gui.lisp], page 19.  |            |
| <code>texture-&gt;image (img)</code>  | [Function] |
| <b>Package</b> [raylib], page 25.   |            |
| <b>Source</b> [raylib.lisp], page 17.   |            |

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| <code>texture-button</code> ( <i>x y w h texture &amp;key pad background-color no-bg</i> )       | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>to-s16</code> ( <i>n</i> )   | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.   |            |
| <code>toplevel-console-listener</code> ( <i>&amp;rest r</i> )                                    | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>universal-start-server</code> ( <i>conn game-handler &amp;key fen opponent-side time</i> ) | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.   |            |
| <code>unload-image!</code> ( <i>img</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>unload-render-texture!</code> ( <i>rt</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>unload-texture!</code> ( <i>txt</i> )  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>unshade-screen</code> ( <i>screen n-frames &amp;key flip</i> )                             | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>whitep</code> ( <i>p</i> )   | [Function] |
| <b>Package</b> [leszcz-types], page 36.  |            |
| <b>Source</b> [leszcz-types.lisp], page 14.  |            |
| <code>window-close-p</code> ()   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>window-ready-p</code> ()   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>write-packets</code> ( <i>conn packets</i> )   | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.   |            |



### 4.1.5 Generic functions

`game->pgn` (*g f*) [Generic Function]

**Package** [leszcz-types], page 36.

**Methods**

`game->pgn` ((*g [game]*, *page 77*) *f*) [Method]

**Source** [leszcz-types.lisp], page 14.

`game-black-can-castle-kingside-p` (*object*) [Generic Reader]

**Package** [leszcz-types], page 36.

**Methods**

`game-black-can-castle-kingside-p` ((*game [game]*,  
*page 77*)) [Reader Method]

automatically generated reader method

**Source** [leszcz-types.lisp], page 14.

**Target Slot**

[black-can-castle-kingside-p], page 78.

`(setf game-black-can-castle-kingside-p)` (*object*) [Generic Writer]

**Package** [leszcz-types], page 36.

**Methods**

`(setf game-black-can-castle-kingside-p)` ((*game*  
*[game]*, *page 77*)) [Writer Method]

automatically generated writer method

**Source** [leszcz-types.lisp], page 14.

**Target Slot**

[black-can-castle-kingside-p], page 78.

`game-black-can-castle-queenside-p` (*object*) [Generic Reader]

**Package** [leszcz-types], page 36.

**Methods**

`game-black-can-castle-queenside-p` ((*game*  
*[game]*, *page 77*)) [Reader Method]

automatically generated reader method

**Source** [leszcz-types.lisp], page 14.

**Target Slot**

[black-can-castle-queenside-p], page 78.

`(setf game-black-can-castle-queenside-p)` (*object*) [Generic Writer]

**Package** [leszcz-types], page 36.

**Methods**

- (setf game-black-can-castle-queenside-p) [Writer Method]  
 ((*game* [*game*], page 77))  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [black-can-castle-queenside-p], page 78.
- game-connection (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- game-connection ((*game* [*game*], page 77)) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [connection], page 80.
- (setf game-connection) (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- (setf game-connection) ((*game* [*game*], page 77)) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [connection], page 80.
- game-en-passant-target-square (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- game-en-passant-target-square ((*game* [*game*],  
 page 77)) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [en-passant-target-square], page 79.
- (setf game-en-passant-target-square) (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- (setf game-en-passant-target-square) ((*game*  
 [*game*], page 77)) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [en-passant-target-square], page 79.

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| <code>game-fb</code> ( <i>object</i> )   | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.  |                  |
| <b>Methods</b>   |                  |
| <code>game-fb</code> (( <i>game</i> [ <i>game</i> ], page 77))                       | [Reader Method]  |
| automatically generated reader method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.  |                  |
| <b>Target Slot</b>   |                  |
| [fb], page 80.   |                  |
| <code>(setf game-fb)</code> ( <i>object</i> )  | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.  |                  |
| <b>Methods</b>   |                  |
| <code>(setf game-fb)</code> (( <i>game</i> [ <i>game</i> ], page 77))                | [Writer Method]  |
| automatically generated writer method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.  |                  |
| <b>Target Slot</b>   |                  |
| [fb], page 80.   |                  |
| <code>game-fullmove-clock</code> ( <i>object</i> )                                   | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.  |                  |
| <b>Methods</b>   |                  |
| <code>game-fullmove-clock</code> (( <i>game</i> [ <i>game</i> ], page 77))           | [Reader Method]  |
| automatically generated reader method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.  |                  |
| <b>Target Slot</b>   |                  |
| [fullmove-clock], page 79.   |                  |
| <code>(setf game-fullmove-clock)</code> ( <i>object</i> )                            | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.  |                  |
| <b>Methods</b>   |                  |
| <code>(setf game-fullmove-clock)</code> (( <i>game</i> [ <i>game</i> ],<br>page 77)) | [Writer Method]  |
| automatically generated writer method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.  |                  |
| <b>Target Slot</b>   |                  |
| [fullmove-clock], page 79.   |                  |
| <code>game-halfmove-clock</code> ( <i>object</i> )                                   | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.  |                  |
| <b>Methods</b>   |                  |
| <code>game-halfmove-clock</code> (( <i>game</i> [ <i>game</i> ], page 77))           | [Reader Method]  |
| automatically generated reader method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.  |                  |
| <b>Target Slot</b>   |                  |
| [halfmove-clock], page 79.   |                  |

|   |                    |
|---|--------------------|
| <code>(setf game-halfmove-clock)</code> ( <i>object</i> )                 | [Generic Writer]   |
| <b>Package</b> [leszcz-types], page 36.                                   |                    |
| <b>Methods</b>  |                    |
| <code>(setf game-halfmove-clock)</code> ( <i>(game [game], page 77)</i> ) | [Writer Method]    |
| automatically generated writer method                                     |                    |
| <b>Source</b> [leszcz-types.lisp], page 14.                               |                    |
| <b>Target Slot</b>  |                    |
| [halfmove-clock], page 79.  |                    |
| <code>game-in-progress-p</code> ( <i>g</i> )                              | [Generic Function] |
| <b>Package</b> [leszcz-types], page 36.                                   |                    |
| <b>Methods</b>  |                    |
| <code>game-in-progress-p</code> ( <i>(g [game], page 77)</i> )            | [Method]           |
| <b>Source</b> [leszcz-types.lisp], page 14.                               |                    |
| <code>game-interactive-p</code> ( <i>object</i> )                         | [Generic Reader]   |
| <b>Package</b> [leszcz-types], page 36.                                   |                    |
| <b>Methods</b>  |                    |
| <code>game-interactive-p</code> ( <i>(game [game], page 77)</i> )         | [Reader Method]    |
| automatically generated reader method                                     |                    |
| <b>Source</b> [leszcz-types.lisp], page 14.                               |                    |
| <b>Target Slot</b>  |                    |
| [interactive-p], page 80.   |                    |
| <code>(setf game-interactive-p)</code> ( <i>object</i> )                  | [Generic Writer]   |
| <b>Package</b> [leszcz-types], page 36.                                   |                    |
| <b>Methods</b>  |                    |
| <code>(setf game-interactive-p)</code> ( <i>(game [game], page 77)</i> )  | [Writer Method]    |
| automatically generated writer method                                     |                    |
| <b>Source</b> [leszcz-types.lisp], page 14.                               |                    |
| <b>Target Slot</b>  |                    |
| [interactive-p], page 80.   |                    |
| <code>game-move-history</code> ( <i>object</i> )                          | [Generic Reader]   |
| <b>Package</b> [leszcz-types], page 36.                                   |                    |
| <b>Methods</b>  |                    |
| <code>game-move-history</code> ( <i>(game [game], page 77)</i> )          | [Reader Method]    |
| automatically generated reader method                                     |                    |
| <b>Source</b> [leszcz-types.lisp], page 14.                               |                    |
| <b>Target Slot</b>  |                    |
| [move-history], page 78.  |                    |

|  |                  |
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| <code>(setf game-move-history)</code> ( <i>object</i> )                      | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                                      |                  |
| <b>Methods</b>   |                  |
| <code>(setf game-move-history)</code> ( <i>(game [game], page 77)</i> )      | [Writer Method]  |
| automatically generated writer method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                                  |                  |
| <b>Target Slot</b>   |                  |
| [move-history], page 78.   |                  |
| <code>game-opponent-username</code> ( <i>object</i> )                        | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                                      |                  |
| <b>Methods</b>   |                  |
| <code>game-opponent-username</code> ( <i>(game [game], page 77)</i> )        | [Reader Method]  |
| automatically generated reader method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                                  |                  |
| <b>Target Slot</b>   |                  |
| [opponent-username], page 80.  |                  |
| <code>(setf game-opponent-username)</code> ( <i>object</i> )                 | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                                      |                  |
| <b>Methods</b>   |                  |
| <code>(setf game-opponent-username)</code> ( <i>(game [game], page 77)</i> ) | [Writer Method]  |
| automatically generated writer method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                                  |                  |
| <b>Target Slot</b>   |                  |
| [opponent-username], page 80.  |                  |
| <code>game-pieces</code> ( <i>object</i> )                                   | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                                      |                  |
| <b>Methods</b>   |                  |
| <code>game-pieces</code> ( <i>(game [game], page 77)</i> )                   | [Reader Method]  |
| automatically generated reader method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                                  |                  |
| <b>Target Slot</b>   |                  |
| [pieces], page 78.   |                  |
| <code>(setf game-pieces)</code> ( <i>object</i> )                            | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                                      |                  |
| <b>Methods</b>   |                  |
| <code>(setf game-pieces)</code> ( <i>(game [game], page 77)</i> )            | [Writer Method]  |
| automatically generated writer method  |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                                  |                  |
| <b>Target Slot</b>   |                  |
| [pieces], page 78.   |                  |

- `game-points-cache` (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- `game-points-cache` ((*game* [*game*], page 77)) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [points-cache], page 79.
- `(setf game-points-cache)` (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- `(setf game-points-cache)` ((*game* [*game*], page 77)) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [points-cache], page 79.
- `game-possible-moves-cache` (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- `game-possible-moves-cache` ((*game* [*game*],  
 page 77)) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [possible-moves-cache], page 79.
- `(setf game-possible-moves-cache)` (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- `(setf game-possible-moves-cache)` ((*game* [*game*],  
 page 77)) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [possible-moves-cache], page 79.
- `game-result` (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**

|  |                    |
|--|--------------------|
| <p><code>game-result</code> (<i>(game [game], page 77)</i>)<br/> automatically generated reader method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [result], page 79.</p>        | [Reader Method]    |
| <p><code>(setf game-result)</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>  | [Generic Writer]   |
| <p><code>(setf game-result)</code> (<i>(game [game], page 77)</i>)<br/> automatically generated writer method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [result], page 79.</p> | [Writer Method]    |
| <p><code>game-side</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>   | [Generic Reader]   |
| <p><code>game-side</code> (<i>(game [game], page 77)</i>)<br/> automatically generated reader method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [side], page 79.</p>            | [Reader Method]    |
| <p><code>(setf game-side)</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>  | [Generic Writer]   |
| <p><code>(setf game-side)</code> (<i>(game [game], page 77)</i>)<br/> automatically generated writer method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [side], page 79.</p>     | [Writer Method]    |
| <p><code>game-tick</code> (<i>g</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>  | [Generic Function] |
| <p><code>game-tick</code> (<i>(g [game], page 77)</i>)</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p>  | [Method]           |
| <p><code>game-ticker</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>   | [Generic Reader]   |

|  |                  |
|--|------------------|
| <p><code>game-ticker</code> (<i>(game [game], page 77)</i>)<br/> automatically generated reader method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [ticker], page 79.</p>                          | [Reader Method]  |
| <p><code>(setf game-ticker)</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>  | [Generic Writer] |
| <p><code>(setf game-ticker)</code> (<i>(game [game], page 77)</i>)<br/> automatically generated writer method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [ticker], page 79.</p>                   | [Writer Method]  |
| <p><code>game-time-begin-turn</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>  | [Generic Reader] |
| <p><code>game-time-begin-turn</code> (<i>(game [game], page 77)</i>)<br/> automatically generated reader method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [time-begin-turn], page 80.</p>        | [Reader Method]  |
| <p><code>(setf game-time-begin-turn)</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>   | [Generic Writer] |
| <p><code>(setf game-time-begin-turn)</code> (<i>(game [game], page 77)</i>)<br/> automatically generated writer method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [time-begin-turn], page 80.</p> | [Writer Method]  |
| <p><code>game-time-black</code> (<i>object</i>)</p> <p><b>Package</b> [leszcz-types], page 36.</p> <p><b>Methods</b></p>   | [Generic Reader] |
| <p><code>game-time-black</code> (<i>(game [game], page 77)</i>)<br/> automatically generated reader method</p> <p><b>Source</b> [leszcz-types.lisp], page 14.</p> <p><b>Target Slot</b><br/> [time-black], page 80.</p>                  | [Reader Method]  |



- (setf game-time-black) (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- (setf game-time-black) ((*game* [*game*], page 77)) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [time-black], page 80.
- game-time-white (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- game-time-white ((*game* [*game*], page 77)) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [time-white], page 80.
- (setf game-time-white) (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- (setf game-time-white) ((*game* [*game*], page 77)) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot**  
 [time-white], page 80.
- game-turn (*g*) [Generic Function]  
**Package** [leszcz-types], page 36.  
**Methods**
- game-turn ((*g* [*game*], page 77)) [Method]  
**Source** [leszcz-types.lisp], page 14.
- game-turn-black-p (*g*) [Generic Function]  
**Package** [leszcz-types], page 36.  
**Methods**
- game-turn-black-p ((*g* [*game*], page 77)) [Method]  
**Source** [leszcz-types.lisp], page 14.
- game-turn-white-p (*g*) [Generic Function]  
**Package** [leszcz-types], page 36.  
**Methods**

- `game-turn-white-p` (*(g [game], page 77)*) [Method]  
**Source** [leszcz-types.lisp], page 14.
- `game-white-can-castle-kingside-p` (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- `game-white-can-castle-kingside-p` (*((game [game], page 77))*) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot** [white-can-castle-kingside-p], page 78.
- `(setf game-white-can-castle-kingside-p)` (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- `(setf game-white-can-castle-kingside-p)` (*((game [game], page 77))*) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot** [white-can-castle-kingside-p], page 78.
- `game-white-can-castle-queenside-p` (*object*) [Generic Reader]  
**Package** [leszcz-types], page 36.  
**Methods**
- `game-white-can-castle-queenside-p` (*((game [game], page 77))*) [Reader Method]  
 automatically generated reader method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot** [white-can-castle-queenside-p], page 78.
- `(setf game-white-can-castle-queenside-p)` (*object*) [Generic Writer]  
**Package** [leszcz-types], page 36.  
**Methods**
- `(setf game-white-can-castle-queenside-p)` (*((game [game], page 77))*) [Writer Method]  
 automatically generated writer method  
**Source** [leszcz-types.lisp], page 14.  
**Target Slot** [white-can-castle-queenside-p], page 78.

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| piece-color ( <i>object</i> )                                  | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                        |                  |
| <b>Methods</b>   |                  |
| piece-color (( <i>piece</i> [ <i>piece</i> ], page 80))        | [Reader Method]  |
| automatically generated reader method                          |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                    |                  |
| <b>Target Slot</b>   |                  |
| [ <i>color</i> ], page 81.                                     |                  |
| (setf piece-color) ( <i>object</i> )                           | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                        |                  |
| <b>Methods</b>   |                  |
| (setf piece-color) (( <i>piece</i> [ <i>piece</i> ], page 80)) | [Writer Method]  |
| automatically generated writer method                          |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                    |                  |
| <b>Target Slot</b>   |                  |
| [ <i>color</i> ], page 81.                                     |                  |
| piece-point ( <i>object</i> )                                  | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                        |                  |
| <b>Methods</b>   |                  |
| piece-point (( <i>piece</i> [ <i>piece</i> ], page 80))        | [Reader Method]  |
| automatically generated reader method                          |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                    |                  |
| <b>Target Slot</b>   |                  |
| [ <i>point</i> ], page 81.                                     |                  |
| (setf piece-point) ( <i>object</i> )                           | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                        |                  |
| <b>Methods</b>   |                  |
| (setf piece-point) (( <i>piece</i> [ <i>piece</i> ], page 80)) | [Writer Method]  |
| automatically generated writer method                          |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                    |                  |
| <b>Target Slot</b>   |                  |
| [ <i>point</i> ], page 81.                                     |                  |
| piece-type ( <i>object</i> )                                   | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                        |                  |
| <b>Methods</b>   |                  |
| piece-type (( <i>piece</i> [ <i>piece</i> ], page 80))         | [Reader Method]  |
| automatically generated reader method                          |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                    |                  |
| <b>Target Slot</b>   |                  |
| [ <i>type</i> ], page 81.                                      |                  |

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| <code>(setf piece-type)</code> ( <i>object</i> )                   | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                            |                  |
| <b>Methods</b>   |                  |
| <code>(setf piece-type)</code> ( <i>(piece [piece], page 80)</i> ) | [Writer Method]  |
| automatically generated writer method                              |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                        |                  |
| <b>Target Slot</b>   |                  |
| [ <i>type</i> ], page 81.  |                  |
| <code>point-x</code> ( <i>object</i> )                             | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                            |                  |
| <b>Methods</b>   |                  |
| <code>point-x</code> ( <i>(point [point], page 81)</i> )           | [Reader Method]  |
| automatically generated reader method                              |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                        |                  |
| <b>Target Slot</b>   |                  |
| [ <i>x</i> ], page 81.   |                  |
| <code>(setf point-x)</code> ( <i>object</i> )                      | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                            |                  |
| <b>Methods</b>   |                  |
| <code>(setf point-x)</code> ( <i>(point [point], page 81)</i> )    | [Writer Method]  |
| automatically generated writer method                              |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                        |                  |
| <b>Target Slot</b>   |                  |
| [ <i>x</i> ], page 81.   |                  |
| <code>point-y</code> ( <i>object</i> )                             | [Generic Reader] |
| <b>Package</b> [leszcz-types], page 36.                            |                  |
| <b>Methods</b>   |                  |
| <code>point-y</code> ( <i>(point [point], page 81)</i> )           | [Reader Method]  |
| automatically generated reader method                              |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                        |                  |
| <b>Target Slot</b>   |                  |
| [ <i>y</i> ], page 81.   |                  |
| <code>(setf point-y)</code> ( <i>object</i> )                      | [Generic Writer] |
| <b>Package</b> [leszcz-types], page 36.                            |                  |
| <b>Methods</b>   |                  |
| <code>(setf point-y)</code> ( <i>(point [point], page 81)</i> )    | [Writer Method]  |
| automatically generated writer method                              |                  |
| <b>Source</b> [leszcz-types.lisp], page 14.                        |                  |
| <b>Target Slot</b>   |                  |
| [ <i>y</i> ], page 81.   |                  |

### 4.1.6 Standalone methods

- `print-object` (*(g [game], page 77) s*) [Method]  
**Source** [leszcz-types.lisp], page 14.
- `print-object` (*(p [point], page 81) s*) [Method]  
**Source** [leszcz-types.lisp], page 14.
- `print-object` (*(p [piece], page 80) s*) [Method]  
**Source** [leszcz-types.lisp], page 14.
- `translate-from-foreign` (*pointer (type [type-rectangle], page 108)*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-from-foreign` (*pointer (type [type-vec2], page 109)*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-from-foreign` (*pointer (type [type-texture], page 109)*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-from-foreign` (*pointer (type [type-image], page 108)*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-from-foreign` (*pointer (type [type-color], page 108)*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-into-foreign-memory` (*l (type [type-rectangle], page 108) pointer*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-into-foreign-memory` (*l (type [type-vec2], page 109) pointer*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-into-foreign-memory` (*l (type [type-texture], page 109) pointer*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.
- `translate-into-foreign-memory` (*l (type [type-image], page 108) pointer*) [Method]  
**Package** cffi.  
**Source** [raylib.lisp], page 17.

`translate-into-foreign-memory` (*l* (*type* [*type-color*], *page 108*) *pointer*) [Method]

**Package** `cffi`.

**Source** [`raylib.lisp`], *page 17*.

#### 4.1.7 Conditions

`finalize-condition` [Condition]

**Package** [`leszcz-constants`], *page 33*.

**Source** [`leszcz-constants.lisp`], *page 15*.

**Direct superclasses**  
`simple-error`.

#### 4.1.8 Structures

`fast-board` [Structure]

**Package** [`fast`], *page 34*.

**Source** [`fast.lisp`], *page 22*.

**Direct superclasses**  
`structure-object`.

**Direct slots**

`black` [Slot]

**Package** [`leszcz-constants`], *page 33*.

**Type** `fast:fast-board-1`

**Initform** `(fast::make-fast-board-1)`

**Readers** [`fb-black`], *page 52*.

**Writers** [`(setf fb-black)`], *page 52*.

`white` [Slot]

**Package** [`leszcz-constants`], *page 33*.

**Type** `fast:fast-board-1`

**Initform** `(fast::make-fast-board-1)`

**Readers** [`fb-white`], *page 54*.

**Writers** [`(setf fb-white)`], *page 54*.

`ticker` [Slot]

**Type** `fixnum`

**Initform** `0`

**Readers** [`fb-ticker`], *page 97*.

**Writers** [`(setf fb-ticker)`], *page 97*.

`wck-p` [Slot]

**Type** `boolean`

**Initform** `t`

**Readers** [`fb-wck-p`], *page 97*.

**Writers** [`(setf fb-wck-p)`], *page 97*.

|  |
|--|
| <p> <b>wcq-p</b> <span style="float: right;">[Slot]</span><br/> <b>Type</b>     boolean<br/> <b>Initform</b>  t<br/> <b>Readers</b>   [fb-wcq-p], page 97.<br/> <b>Writers</b>   [(setf fb-wcq-p)], page 97. </p>  |
| <p> <b>bck-p</b> <span style="float: right;">[Slot]</span><br/> <b>Type</b>     boolean<br/> <b>Initform</b>  t<br/> <b>Readers</b>   [fb-bck-p], page 96.<br/> <b>Writers</b>   [(setf fb-bck-p)], page 96. </p>  |
| <p> <b>bcq-p</b> <span style="float: right;">[Slot]</span><br/> <b>Type</b>     boolean<br/> <b>Initform</b>  t<br/> <b>Readers</b>   [fb-bcq-p], page 96.<br/> <b>Writers</b>   [(setf fb-bcq-p)], page 96. </p>  |
| <p> <b>fast-board-1</b> <span style="float: right;">[Structure]</span><br/> <b>Package</b>   [fast], page 34.<br/> <b>Source</b>    [fast.lisp], page 22.<br/> <b>Direct superclasses</b><br/>               structure-object.<br/> <b>Direct slots</b> </p>                       |
| <p> <b>pawn</b> <span style="float: right;">[Slot]</span><br/> <b>Package</b>   [leszcz-constants], page 33.<br/> <b>Type</b>     (unsigned-byte 64)<br/> <b>Initform</b>  0<br/> <b>Readers</b>   [fb-pawn], page 53.<br/> <b>Writers</b>   [(setf fb-pawn)], page 53. </p>       |
| <p> <b>rook</b> <span style="float: right;">[Slot]</span><br/> <b>Package</b>   [leszcz-constants], page 33.<br/> <b>Type</b>     (unsigned-byte 64)<br/> <b>Initform</b>  0<br/> <b>Readers</b>   [fb-rook], page 54.<br/> <b>Writers</b>   [(setf fb-rook)], page 54. </p>       |
| <p> <b>knight</b> <span style="float: right;">[Slot]</span><br/> <b>Package</b>   [leszcz-constants], page 33.<br/> <b>Type</b>     (unsigned-byte 64)<br/> <b>Initform</b>  0<br/> <b>Readers</b>   [fb-knight], page 53.<br/> <b>Writers</b>   [(setf fb-knight)], page 53. </p> |

|                 |                              |        |
|-----------------|------------------------------|--------|
| bishop          |                              | [Slot] |
| <b>Package</b>  | [leszcz-constants], page 33. |        |
| <b>Type</b>     | (unsigned-byte 64)           |        |
| <b>Initform</b> | 0                            |        |
| <b>Readers</b>  | [fb-bishop], page 52.        |        |
| <b>Writers</b>  | [(setf fb-bishop)], page 52. |        |
| queen           |                              | [Slot] |
| <b>Package</b>  | [leszcz-constants], page 33. |        |
| <b>Type</b>     | (unsigned-byte 64)           |        |
| <b>Initform</b> | 0                            |        |
| <b>Readers</b>  | [fb-queen], page 54.         |        |
| <b>Writers</b>  | [(setf fb-queen)], page 54.  |        |
| king            |                              | [Slot] |
| <b>Package</b>  | [leszcz-constants], page 33. |        |
| <b>Type</b>     | (unsigned-byte 64)           |        |
| <b>Initform</b> | 0                            |        |
| <b>Readers</b>  | [fb-king], page 53.          |        |
| <b>Writers</b>  | [(setf fb-king)], page 53.   |        |

#### 4.1.9 Classes

|                       |   |         |
|-----------------------|---|---------|
| capturer              |   | [Class] |
| <b>Package</b>        | [gui], page 38.                               |         |
| <b>Source</b>         | [gui.lisp], page 19.                          |         |
| <b>Direct methods</b> |   |         |
| •                     | [(setf capturer-can-be-removed-p)], page 105. |         |
| •                     | [capturer-can-be-removed-p], page 105.        |         |
| •                     | [(setf capturer-delete)], page 106.           |         |
| •                     | [capturer-delete], page 105.                  |         |
| <b>Direct slots</b>   |   |         |
| can-be-removed-p      |   | [Slot]  |
| <b>Initform</b>       | t   |         |
| <b>Initargs</b>       | :can-be-removed-p                             |         |
| <b>Readers</b>        | [capturer-can-be-removed-p], page 105.        |         |
| <b>Writers</b>        | [(setf capturer-can-be-removed-p)], page 105. |         |
| delete                |   | [Slot]  |
| <b>Package</b>        | common-lisp.                                  |         |
| <b>Initform</b>       | (function (lambda nil t))                     |         |
| <b>Initargs</b>       | :delete                                       |         |
| <b>Readers</b>        | [capturer-delete], page 105.                  |         |
| <b>Writers</b>        | [(setf capturer-delete)], page 106.           |         |



game [Class]

**Package** [leszcz-types], page 36.

**Source** [leszcz-types.lisp], page 14.

**Direct methods**

- [game->pgn], page 61.
- [(setf game-black-can-castle-kingside-p)], page 61.
- [game-black-can-castle-kingside-p], page 61.
- [(setf game-black-can-castle-queenside-p)], page 62.
- [game-black-can-castle-queenside-p], page 61.
- [game-check-for-mates], page 106.
- [(setf game-connection)], page 62.
- [game-connection], page 62.
- [(setf game-en-passant-target-square)], page 62.
- [game-en-passant-target-square], page 62.
- [(setf game-fb)], page 63.
- [game-fb], page 63.
- [(setf game-fullmove-clock)], page 63.
- [game-fullmove-clock], page 63.
- [(setf game-halfmove-clock)], page 64.
- [game-halfmove-clock], page 63.
- [game-in-progress-p], page 64.
- [(setf game-interactive-p)], page 64.
- [game-interactive-p], page 64.
- [(setf game-move-history)], page 65.
- [game-move-history], page 64.
- [(setf game-opponent-username)], page 65.
- [game-opponent-username], page 65.
- [(setf game-pieces)], page 65.
- [game-pieces], page 65.
- [(setf game-points-cache)], page 66.
- [game-points-cache], page 66.
- [(setf game-possible-moves-cache)], page 66.
- [game-possible-moves-cache], page 66.
- [(setf game-result)], page 67.
- [game-result], page 67.
- [(setf game-side)], page 67.
- [game-side], page 67.
- [game-tick], page 67.
- [(setf game-ticker)], page 68.
- [game-ticker], page 68.
- [(setf game-time-begin-turn)], page 68.
- [game-time-begin-turn], page 68.

- [(setf game-time-black)], page 69.
- [game-time-black], page 68.
- [(setf game-time-white)], page 69.
- [game-time-white], page 69.
- [game-turn], page 69.
- [game-turn-black-p], page 69.
- [game-turn-white-p], page 70.
- [game-update-points-cache], page 106.
- [game-update-possible-moves-cache], page 106.
- [(setf game-white-can-castle-kingside-p)], page 70.
- [game-white-can-castle-kingside-p], page 70.
- [(setf game-white-can-castle-queenside-p)], page 70.
- [game-white-can-castle-queenside-p], page 70.
- [print-object], page 73.

### Direct slots

|   |        |
|---|--------|
| pieces  | [Slot] |
| <b>Initargs</b> :pieces   |        |
| <b>Readers</b> [game-pieces], page 65.                              |        |
| <b>Writers</b> [(setf game-pieces)], page 65.                       |        |
| move-history  | [Slot] |
| <b>Initargs</b> :move-history                                       |        |
| <b>Readers</b> [game-move-history], page 64.                        |        |
| <b>Writers</b> [(setf game-move-history)], page 65.                 |        |
| black-can-castle-queenside-p  | [Slot] |
| <b>Initargs</b> :bcq-p  |        |
| <b>Readers</b> [game-black-can-castle-queenside-p], page 61.        |        |
| <b>Writers</b> [(setf game-black-can-castle-queenside-p)], page 62. |        |
| black-can-castle-kingside-p   | [Slot] |
| <b>Initargs</b> :bck-p  |        |
| <b>Readers</b> [game-black-can-castle-kingside-p], page 61.         |        |
| <b>Writers</b> [(setf game-black-can-castle-kingside-p)], page 61.  |        |
| white-can-castle-queenside-p  | [Slot] |
| <b>Initargs</b> :wcq-p  |        |
| <b>Readers</b> [game-white-can-castle-queenside-p], page 70.        |        |
| <b>Writers</b> [(setf game-white-can-castle-queenside-p)], page 70. |        |
| white-can-castle-kingside-p   | [Slot] |
| <b>Initargs</b> :wck-p  |        |
| <b>Readers</b> [game-white-can-castle-kingside-p], page 70.         |        |
| <b>Writers</b> [(setf game-white-can-castle-kingside-p)], page 70.  |        |

|   |        |
|---|--------|
| <code>en-passant-target-square</code>                           | [Slot] |
| <b>Initargs</b> :en-passant-target-square                       |        |
| <b>Readers</b> [game-en-passant-target-square], page 62.        |        |
| <b>Writers</b> [(setf game-en-passant-target-square)], page 62. |        |
| <code>ticker</code>   | [Slot] |
| <b>Type</b> fixnum  |        |
| <b>Initform</b> (the fixnum 0)                                  |        |
| <b>Initargs</b> :ticker   |        |
| <b>Readers</b> [game-ticker], page 68.                          |        |
| <b>Writers</b> [(setf game-ticker)], page 68.                   |        |
| <code>possible-moves-cache</code>                               | [Slot] |
| <b>Initargs</b> :possible-moves-cache                           |        |
| <b>Readers</b> [game-possible-moves-cache], page 66.            |        |
| <b>Writers</b> [(setf game-possible-moves-cache)], page 66.     |        |
| <code>side</code>   | [Slot] |
| <b>Initargs</b> :side   |        |
| <b>Readers</b> [game-side], page 67.                            |        |
| <b>Writers</b> [(setf game-side)], page 67.                     |        |
| <code>points-cache</code>                                       | [Slot] |
| <b>Initargs</b> :points-cache                                   |        |
| <b>Readers</b> [game-points-cache], page 66.                    |        |
| <b>Writers</b> [(setf game-points-cache)], page 66.             |        |
| <code>halfmove-clock</code>                                     | [Slot] |
| <b>Initform</b> 0   |        |
| <b>Initargs</b> :halfmove-clock                                 |        |
| <b>Readers</b> [game-halfmove-clock], page 63.                  |        |
| <b>Writers</b> [(setf game-halfmove-clock)], page 64.           |        |
| <code>fullmove-clock</code>                                     | [Slot] |
| <b>Initform</b> 1   |        |
| <b>Initargs</b> :fullmove-clock                                 |        |
| <b>Readers</b> [game-fullmove-clock], page 63.                  |        |
| <b>Writers</b> [(setf game-fullmove-clock)], page 63.           |        |
| <code>result</code>   | [Slot] |
| <b>Initform</b> (quote leszcz-constants:in-progress)            |        |
| <b>Initargs</b> :result   |        |
| <b>Readers</b> [game-result], page 67.                          |        |
| <b>Writers</b> [(setf game-result)], page 67.                   |        |

|                       |   |
|-----------------------|---|
| connection            | [Slot]  |
| <b>Initargs</b>       | :connection                                     |
| <b>Readers</b>        | [game-connection], page 62.                     |
| <b>Writers</b>        | [(setf game-connection)], page 62.              |
| fb                    | [Slot]  |
| <b>Initargs</b>       | :fb   |
| <b>Readers</b>        | [game-fb], page 63.                             |
| <b>Writers</b>        | [(setf game-fb)], page 63.                      |
| interactive-p         | [Slot]  |
| <b>Initargs</b>       | :interactive-p                                  |
| <b>Readers</b>        | [game-interactive-p], page 64.                  |
| <b>Writers</b>        | [(setf game-interactive-p)], page 64.           |
| time-begin-turn       | [Slot]  |
| <b>Initform</b>       | (local-time:timestamp-to-unix (local-time:now)) |
| <b>Initargs</b>       | :time-begin-turn                                |
| <b>Readers</b>        | [game-time-begin-turn], page 68.                |
| <b>Writers</b>        | [(setf game-time-begin-turn)], page 68.         |
| time-white            | [Slot]  |
| <b>Initform</b>       | 3600  |
| <b>Initargs</b>       | :time-white                                     |
| <b>Readers</b>        | [game-time-white], page 69.                     |
| <b>Writers</b>        | [(setf game-time-white)], page 69.              |
| time-black            | [Slot]  |
| <b>Initform</b>       | 3600  |
| <b>Initargs</b>       | :time-black                                     |
| <b>Readers</b>        | [game-time-black], page 68.                     |
| <b>Writers</b>        | [(setf game-time-black)], page 69.              |
| opponent-username     | [Slot]  |
| <b>Initargs</b>       | :opponent-username                              |
| <b>Readers</b>        | [game-opponent-username], page 65.              |
| <b>Writers</b>        | [(setf game-opponent-username)], page 65.       |
| piece                 | [Class]   |
| <b>Package</b>        | [leszcz-types], page 36.                        |
| <b>Source</b>         | [leszcz-types.lisp], page 14.                   |
| <b>Direct methods</b> |   |
| •                     | [(setf piece-color)], page 71.                  |
| •                     | [piece-color], page 71.                         |

- [(setf piece-point)], page 71.
- [piece-point], page 71.
- [(setf piece-type)], page 72.
- [piece-type], page 71.
- [print-object], page 73.

**Direct slots**

type [Slot]

**Package** common-lisp.  
**Initargs** :type  
**Readers** [piece-type], page 71.  
**Writers** [(setf piece-type)], page 72.

color [Slot]

**Initargs** :color  
**Readers** [piece-color], page 71.  
**Writers** [(setf piece-color)], page 71.

point [Slot]

**Initargs** :point  
**Readers** [piece-point], page 71.  
**Writers** [(setf piece-point)], page 71.

point [Class]

**Package** [leszcz-types], page 36.

**Source** [leszcz-types.lisp], page 14.

**Direct methods**

- [(setf point-x)], page 72.
- [point-x], page 72.
- [(setf point-y)], page 72.
- [point-y], page 72.
- [print-object], page 73.

**Direct slots**

x [Slot]

**Type** fixnum  
**Initargs** :x  
**Readers** [point-x], page 72.  
**Writers** [(setf point-x)], page 72.

y [Slot]

**Type** fixnum  
**Initargs** :y  
**Readers** [point-y], page 72.  
**Writers** [(setf point-y)], page 72.

### 4.1.10 Types

`color ()` [Type]  
**Package** [raylib], page 25.  
**Source** [raylib.lisp], page 17.

## 4.2 Internals

### 4.2.1 Constants

`+bishop-value+` [Constant]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.

`+knight-value+` [Constant]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.

`+pawn-value+` [Constant]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.

`+queen-value+` [Constant]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.

`+rook-value+` [Constant]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.

`u64-max` [Constant]  
**Package** [fast], page 34.  
**Source** [fast.lisp], page 22.

`z-black-bishop` [Constant]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.

`z-black-king` [Constant]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.

`z-black-knight` [Constant]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.

`z-black-pawn` [Constant]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.

|                                     |            |
|-------------------------------------|------------|
| <b>z-black-queen</b>                | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-black-rook</b>                 | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-white-bishop</b>               | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-white-king</b>                 | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-white-knight</b>               | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-white-pawn</b>                 | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-white-queen</b>                | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |
| <b>z-white-rook</b>                 | [Constant] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [book.lisp], page 12. |            |

### 4.2.2 Special variables

|                                     |                    |
|-------------------------------------|--------------------|
| <b>%player-vs-alekhine</b>          | [Special Variable] |
| <b>Package</b> [leszcz], page 27.   |                    |
| <b>Source</b> [book.lisp], page 12. |                    |
| <b>%player-vs-anand</b>             | [Special Variable] |
| <b>Package</b> [leszcz], page 27.   |                    |
| <b>Source</b> [book.lisp], page 12. |                    |
| <b>%player-vs-bot</b>               | [Special Variable] |
| <b>Package</b> [leszcz], page 27.   |                    |
| <b>Source</b> [book.lisp], page 12. |                    |
| <b>%player-vs-botvinnik</b>         | [Special Variable] |
| <b>Package</b> [leszcz], page 27.   |                    |
| <b>Source</b> [book.lisp], page 12. |                    |

|                                      |                    |
|--------------------------------------|--------------------|
| <code>%player-vs-capablanca</code>   | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-carlsen</code>      | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-caruana</code>      | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-fischer</code>      | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-kasparov</code>     | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-morphy</code>       | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-nakamura</code>     | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-polgarj</code>      | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>%player-vs-tal</code>          | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>*alekhine-book*</code>         | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>*anand-book*</code>            | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <code>*arrow-color*</code>           | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |



|                                      |                    |
|--------------------------------------|--------------------|
| <b>*arrow-last-point*</b>            | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| <b>*bonus-table*</b>                 | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [bot.lisp], page 11.   |                    |
| <b>*book*</b>                        | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <b>*book-data*</b>                   | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <b>*bot-depth*</b>                   | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| <b>*botvinnik-book*</b>              | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <b>*capablanca-book*</b>             | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <b>*carlsen-book*</b>                | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <b>*caruana-book*</b>                | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [book.lisp], page 12.  |                    |
| <b>*current-board-evaluation*</b>    | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| <b>*current-ping*</b>                | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| <b>*current-tooltip*</b>             | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |

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| <b>*fischer-book*</b>                  | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [book.lisp], page 12.    |                    |
| <b>*kasparov-book*</b>                 | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [book.lisp], page 12.    |                    |
| <b>*last-ping-ht*</b>                  | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [leszcz.lisp], page 8.   |                    |
| <b>*morphy-book*</b>                   | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [book.lisp], page 12.    |                    |
| <b>*nakamura-book*</b>                 | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [book.lisp], page 12.    |                    |
| <b>*nerd-p*</b>                        | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [leszcz.lisp], page 8.   |                    |
| <b>*opponent-asked-for-takeback-p*</b> | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [leszcz.lisp], page 8.   |                    |
| <b>*opponent-proposed-draw-p*</b>      | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [leszcz.lisp], page 8.   |                    |
| <b>*polgarj-book*</b>                  | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [book.lisp], page 12.    |                    |
| <b>*random-table*</b>                  | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [book.lisp], page 12.    |                    |
| <b>*rev-bonus-table*</b>               | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [bot.lisp], page 11.     |                    |
| <b>*takeback-position*</b>             | [Special Variable] |
| <b>Package</b> [leszcz], page 27.      |                    |
| <b>Source</b> [leszcz.lisp], page 8.   |                    |

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| <b>*tal-book*</b>                               | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [book.lisp], page 12.             |                    |
| <b>*threads*</b>                                | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>+color-grayish-2+</b>                        | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| <b>+color-hax0r-green+</b>                      | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| <b>+hlm/last-from+</b>                          | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>+hlm/last-to+</b>                            | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>black-texture-data-list-pixel</b>            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>black-texture-data-list-sleek</b>            | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| <b>dct/size</b>                                 | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>dmh/font-size</b>                            | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>dmh/height</b>                               | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| <b>dmh/rect</b>                                 | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |

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| dmh/show                             | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| dmh/xpad                             | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| draw-piece/anim-frame                | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| draw-piece/anim-frame-ticker         | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| draw-piece/piece-on-point            | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| dt/font-size                         | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| gml/ping-ticker                      | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| input-box/current                    | [Special Variable] |
| <b>Package</b> [gui], page 38.       |                    |
| <b>Source</b> [gui.lisp], page 19.   |                    |
| maybe-drag/capturer                  | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| maybe-drag/piece                     | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| maybe-switch-sides/capturer          | [Special Variable] |
| <b>Package</b> [leszcz], page 27.    |                    |
| <b>Source</b> [leszcz.lisp], page 8. |                    |
| pawn-magic-1                         | [Special Variable] |
| <b>Package</b> [fast], page 34.      |                    |
| <b>Source</b> [fast.lisp], page 22.  |                    |

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| <code>pawn-magic-r</code>               | [Special Variable] |
| <b>Package</b> [fast], page 34.         |                    |
| <b>Source</b> [fast.lisp], page 22.     |                    |
| <code>scroll-multiplier</code>          | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>smc/current</code>                | [Special Variable] |
| <b>Package</b> [raylib], page 25.       |                    |
| <b>Source</b> [raylib.lisp], page 17.   |                    |
| <code>tb/color-bg</code>                | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>tb/color-bg-hover</code>          | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>tb/color-margin</code>            | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>tb/color-margin-unselected</code> | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>tb/color-text</code>              | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>toplevel-console/capturer</code>  | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>toplevel-console/font-size</code> | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>toplevel-console/height</code>    | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |
| <code>toplevel-console/log</code>       | [Special Variable] |
| <b>Package</b> [gui], page 38.          |                    |
| <b>Source</b> [gui.lisp], page 19.      |                    |

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| toplevel-console/state                          | [Special Variable] |
| <b>Package</b> [gui], page 38.                  |                    |
| <b>Source</b> [gui.lisp], page 19.              |                    |
| ut/pad-size                                     | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| ut/upgrade-bishop-texture                       | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| ut/upgrade-knight-texture                       | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| ut/upgrade-queen-texture                        | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| ut/upgrade-rook-texture                         | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| ut/upgrade-size                                 | [Special Variable] |
| <b>Package</b> [leszcz], page 27.               |                    |
| <b>Source</b> [leszcz.lisp], page 8.            |                    |
| white-texture-data-list-pixel                   | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |
| white-texture-data-list-sleek                   | [Special Variable] |
| <b>Package</b> [leszcz-constants], page 33.     |                    |
| <b>Source</b> [leszcz-constants.lisp], page 15. |                    |

### 4.2.3 Macros

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| all* ( <i>as pred &amp;rest values</i> ) | [Macro] |
| <b>Package</b> [leszcz], page 27.        |         |
| <b>Source</b> [leszcz.lisp], page 8.     |         |
| cchrp ( <i>c</i> )                       | [Macro] |
| <b>Package</b> [leszcz], page 27.        |         |
| <b>Source</b> [book.lisp], page 12.      |         |
| cnump ( <i>c</i> )                       | [Macro] |
| <b>Package</b> [leszcz], page 27.        |         |
| <b>Source</b> [book.lisp], page 12.      |         |

- `enumerate` (*start &body elements*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [book.lisp], page 12.
- `fb-filter-check-moves` (*fb\* color-accessor piece-accessor from bb*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [leszcz.lisp], page 8.
- `fb-filter-check-moves*` (*fb color piece-accessor x y bb*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [leszcz.lisp], page 8.
- `fb-point` (*fb color-accessor piece-accessor x y*) [Macro]  
  **Package** [fast], page 34.  
  **Source** [fast.lisp], page 22.
- `fb1-at` (*fb1 x y*) [Macro]  
  **Package** [fast], page 34.  
  **Source** [fast.lisp], page 22.
- `fb1-set-p` (*fb1 x y*) [Macro]  
  **Package** [fast], page 34.  
  **Source** [fast.lisp], page 22.
- `if*` (*f a b*) [Macro]  
  **Package** [net], page 40.  
  **Source** [net.lisp], page 21.
- `make-trans` (*type stype slots*) [Macro]  
  **Package** [raylib], page 25.  
  **Source** [raylib.lisp], page 17.
- `maybe-catch-all-exceptions` (*&body b*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [leszcz.lisp], page 8.
- `maybe-catch-finish` (*&body b*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [leszcz.lisp], page 8.
- `maybe-reverse` (*g pt*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [leszcz.lisp], page 8.
- `maybe-trace` (*&body b*) [Macro]  
  **Package** [leszcz], page 27.  
  **Source** [leszcz.lisp], page 8.

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| maybe-trap-floats ( <b>&amp;body</b> <i>b</i> )              | [Macro]    |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| s-begins-with ( <i>s with</i> )                              | [Macro]    |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [book.lisp], page 12.                          |            |
| safe-piece-type ( <i>p</i> )                                 | [Macro]    |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| set-bit! ( <i>thing bit to &amp;key type-size</i> )          | [Macro]    |
| <b>Package</b> [fast], page 34.                              |            |
| <b>Source</b> [fast.lisp], page 22.                          |            |
| set-current-tooltip! ( <i>v</i> )                            | [Macro]    |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| u64 ( <i>n</i> )   | [Macro]    |
| <b>Package</b> [fast], page 34.                              |            |
| <b>Source</b> [fast.lisp], page 22.                          |            |
| <b>4.2.4 Ordinary functions</b>                              |            |
| %ask-uname ()  | [Function] |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| %display-waiting-for-connection ()                           | [Function] |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| %game-options-menu ( <i>title &amp;key no-port no-nick</i> ) | [Function] |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| %host-game-menu ()   | [Function] |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| %info-menu ()  | [Function] |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |
| %join-game-menu ()   | [Function] |
| <b>Package</b> [leszcz], page 27.                            |            |
| <b>Source</b> [leszcz.lisp], page 8.                         |            |



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| <code>%local-player-vs-player ()</code>                        | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>%main ()</code>  | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>%online-host-menu ()</code>                              | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>%online-join-menu ()</code>                              | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>%test-main ()</code>                                     | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>algebraic-&gt;lst (g str)</code>                         | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [book.lisp], page 12.                            |            |
| <code>ask-for-upgrade-type (game upgraded-piece)</code>        | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>base-texture-of (thing)</code>                           | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>bb-&gt;move-lst (bb)</code>                              | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>begin-drawing-1 ()</code>                                | [Function] |
| <b>Package</b> [raylib], page 25.                              |            |
| <b>Source</b> [raylib.lisp], page 17.                          |            |
| <code>cleanup-threads! ()</code>                               | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |
| <code>connect-to-master (&amp;key server port username)</code> | [Function] |
| <b>Package</b> [leszcz], page 27.                              |            |
| <b>Source</b> [leszcz.lisp], page 8.                           |            |

- `coords->point` (*x y*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `copy-fast-board-1` (*instance*) [Function]  
**Package** [fast], page 34.  
**Source** [fast.lisp], page 22.
- `copy-pgn` (*instance*) [Function]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.
- `count-bonuses` (*game*) [Function]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.
- `count-material-of` (*ff*) [Function]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.
- `delete-current-tooltip!` (**&rest** *\_*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `display-draw` (*game* **&optional** *why*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `display-game-finish-menu` (*game text*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `display-win` (*game*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `draw-arrow` (*x1 y1 x2 y2* **&key** *color*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `draw-current-tooltip` (**&rest** *\_*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- `draw-game` (*g*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.

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| <code>draw-game-control-buttons</code> ( <i>g</i> &rest <i>_</i> )       | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>draw-icon</code> ( <i>iname x y w h</i> &optional <i>tooltip</i> ) | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>draw-menu-button</code> ( <i>g</i> &rest <i>_</i> )                | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>draw-move-history</code> ( <i>g</i> &rest <i>_</i> )               | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>draw-piece</code> ( <i>g p</i> )                                   | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>draw-time</code> ( <i>g</i> &rest <i>_</i> )                       | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>dta+bgshade</code> ( <i>text x y size color</i> )                  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>dts+bgshade</code> ( <i>text x y size color</i> )                  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>end-drawing-1</code> ()  | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.                                    |            |
| <code>enposition-moveset</code> ( <i>position moveset</i> )              | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>evaluate-position</code> ( <i>game</i> )                           | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [bot.lisp], page 11.                                       |            |
| <code>f/</code> ( <i>a b</i> )   | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.                                       |            |

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| fast-board-1-p ( <i>object</i> )          | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fast-board-p ( <i>object</i> )            | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fb--knight-check-board ( <i>knights</i> ) | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fb--make-color-board ( <i>fb1</i> )       | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fb-bck-p ( <i>instance</i> )              | [Reader]   |
| (setf fb-bck-p) ( <i>instance</i> )       | [Writer]   |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| <b>Target Slot</b>                        |            |
| [bck-p], page 75.                         |            |
| fb-bcq-p ( <i>instance</i> )              | [Reader]   |
| (setf fb-bcq-p) ( <i>instance</i> )       | [Writer]   |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| <b>Target Slot</b>                        |            |
| [bcq-p], page 75.                         |            |
| fb-display ( <i>n</i> )                   | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fb-make-black-board ( <i>fb</i> )         | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fb-make-piece-board ( <i>fb</i> )         | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |
| fb-make-white-board ( <i>fb</i> )         | [Function] |
| <b>Package</b> [fast], page 34.           |            |
| <b>Source</b> [fast.lisp], page 22.       |            |

|   |            |
|---|------------|
| <code>fb-point-checked-p</code> ( <i>fb px py by</i> )                              | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>fb-ticker</code> ( <i>instance</i> )  | [Reader]   |
| <code>(setf fb-ticker)</code> ( <i>instance</i> )                                   | [Writer]   |
| <b>Package</b> [fast], page 34.   |            |
| <b>Source</b> [fast.lisp], page 22.   |            |
| <b>Target Slot</b>  |            |
| [ticker], page 74.  |            |
| <code>fb-wck-p</code> ( <i>instance</i> )   | [Reader]   |
| <code>(setf fb-wck-p)</code> ( <i>instance</i> )                                    | [Writer]   |
| <b>Package</b> [fast], page 34.   |            |
| <b>Source</b> [fast.lisp], page 22.   |            |
| <b>Target Slot</b>  |            |
| [wck-p], page 74.   |            |
| <code>fb-wcq-p</code> ( <i>instance</i> )   | [Reader]   |
| <code>(setf fb-wcq-p)</code> ( <i>instance</i> )                                    | [Writer]   |
| <b>Package</b> [fast], page 34.   |            |
| <b>Source</b> [fast.lisp], page 22.   |            |
| <b>Target Slot</b>  |            |
| [wcq-p], page 75.   |            |
| <code>fb1-king-of</code> ( <i>fb1</i> )   | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>fen-&gt;game</code> ( <i>fen</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>filter-own-pieces</code> ( <i>game p move-list &amp;key disallow-taking</i> ) | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>game--search</code> ( <i>g depth alpha beta</i> )                             | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [bot.lisp], page 11.  |            |
| <code>game-&gt;fen</code> ( <i>g</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>game-accept-draw</code> ( <i>g</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |

- game-accept-takeback (*g*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- game-do-move (*game piece mx my &key no-recache no-check-mates no-funcall upgrade-type no-send no-display-check-mates no-history no-update-timers*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- game-main-loop (*game side conn*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- game-propose-draw (*g*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- game-resign (*g*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- game-search (*g depth &key book*) [Function]  
**Package** [leszcz], page 27.  
**Source** [bot.lisp], page 11.
- game-set-fen! (*g fen*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- game-surrender (*g*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- generate-sliding-moves (*game p moveset*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.
- gm-book->ht (*filename &optional n*) [Function]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.
- hash-zobrist (*game*) [Function]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.
- hasp (*el l*) [Function]  
**Package** [leszcz], page 27.  
**Source** [leszcz.lisp], page 8.

|  |            |
|--|------------|
| <code>highlight-last-move</code> ( <i>g</i> &rest <i>-</i> )   | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>highlight-possible-moves</code> ( <i>game</i> &rest <i>r</i> )                                 | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>initialize-game</code> ( <i>game side conn</i> &key <i>no-overwrite-interactive</i> )          | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>king-of</code> ( <i>game color</i> )   | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>load-gm-ht</code> ( <i>gm</i> &key <i>flush</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [book.lisp], page 12.  |            |
| <code>lst-&gt;pos</code> ( <i>l</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>make-fast-board</code> (&key <i>black white ticker wck-p wcq-p bck-p bcq-p</i> )               | [Function] |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <code>make-fast-board-1</code> (&key <i>pawn rook knight bishop queen king</i> )                     | [Function] |
| <b>Package</b> [fast], page 34.  |            |
| <b>Source</b> [fast.lisp], page 22.  |            |
| <code>make-pgn</code> (&key <i>event site date round white black result additional-tags moves</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [book.lisp], page 12.  |            |
| <code>make-player-vs-bot</code> ( <i>book</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>make-server-packet</code> ( <i>type</i> &key <i>hii-p2p gdata-color gdata-fen gdata-time</i> ) | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.   |            |
| <code>maybe-castling-moves</code> ( <i>game p</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |

|   |            |
|---|------------|
| <code>maybe-drag</code> ( <i>game &amp;rest r</i> )                             | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-draw-arrow</code> ( <i>g &amp;rest -</i> )                          | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-draw-eval</code> ( <i>&amp;rest -</i> )                             | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-draw-nerd-stuff</code> ( <i>g &amp;rest -</i> )                     | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-move-bot</code> ( <i>game &amp;key book</i> )                       | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-receive-something</code> ( <i>game</i> )                            | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-set-cursor</code> ( <i>g &amp;rest -</i> )                          | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-switch-nerd</code> ( <i>g &amp;rest -</i> )                         | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>maybe-switch-sides</code> ( <i>g</i> )                                    | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>move-&gt;algebraic</code> ( <i>g p from to take-p maybe-update-type</i> ) | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>move-possible-p</code> ( <i>p px py game</i> )                            | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [leszcz.lisp], page 8.  |            |
| <code>normalize</code> ( <i>val start end</i> )                                 | [Function] |
| <b>Package</b> [leszcz], page 27.   |            |
| <b>Source</b> [bot.lisp], page 11.  |            |



|  |            |
|--|------------|
| old--point-checked-p ( <i>game px py by</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [leszcz.lisp], page 8.           |            |
| pgn-additional-tags ( <i>instance</i> )        | [Reader]   |
| (setf pgn-additional-tags) ( <i>instance</i> ) | [Writer]   |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| <b>Target Slot</b>                             |            |
| [additional-tags], page 107.                   |            |
| pgn-black ( <i>instance</i> )                  | [Reader]   |
| (setf pgn-black) ( <i>instance</i> )           | [Writer]   |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| <b>Target Slot</b>                             |            |
| [black], page 107.                             |            |
| pgn-date ( <i>instance</i> )                   | [Reader]   |
| (setf pgn-date) ( <i>instance</i> )            | [Writer]   |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| <b>Target Slot</b>                             |            |
| [date], page 107.                              |            |
| pgn-event ( <i>instance</i> )                  | [Reader]   |
| (setf pgn-event) ( <i>instance</i> )           | [Writer]   |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| <b>Target Slot</b>                             |            |
| [event], page 106.                             |            |
| pgn-moves ( <i>instance</i> )                  | [Reader]   |
| (setf pgn-moves) ( <i>instance</i> )           | [Writer]   |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| <b>Target Slot</b>                             |            |
| [moves], page 108.                             |            |
| pgn-p ( <i>object</i> )                        | [Function] |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| pgn-result ( <i>instance</i> )                 | [Reader]   |
| (setf pgn-result) ( <i>instance</i> )          | [Writer]   |
| <b>Package</b> [leszcz], page 27.              |            |
| <b>Source</b> [book.lisp], page 12.            |            |
| <b>Target Slot</b>                             |            |
| [result], page 107.                            |            |

|   |            |
|---|------------|
| pgn-round ( <i>instance</i> )                         | [Reader]   |
| (setf pgn-round) ( <i>instance</i> )                  | [Writer]   |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [book.lisp], page 12.                   |            |
| <b>Target Slot</b>                                    |            |
| [round], page 107.                                    |            |
| pgn-site ( <i>instance</i> )                          | [Reader]   |
| (setf pgn-site) ( <i>instance</i> )                   | [Writer]   |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [book.lisp], page 12.                   |            |
| <b>Target Slot</b>                                    |            |
| [site], page 107.                                     |            |
| pgn-white ( <i>instance</i> )                         | [Reader]   |
| (setf pgn-white) ( <i>instance</i> )                  | [Writer]   |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [book.lisp], page 12.                   |            |
| <b>Target Slot</b>                                    |            |
| [white], page 107.                                    |            |
| piece->char ( <i>p</i> )                              | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [leszcz.lisp], page 8.                  |            |
| piece->zobrist-hash-enum ( <i>p</i> )                 | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [book.lisp], page 12.                   |            |
| piece-at-point ( <i>game x y</i> )                    | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [leszcz.lisp], page 8.                  |            |
| point-checked-p ( <i>game px py by</i> )              | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [leszcz.lisp], page 8.                  |            |
| pos->lst ( <i>s</i> )                                 | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [leszcz.lisp], page 8.                  |            |
| position-of ( <i>p</i> )                              | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [leszcz.lisp], page 8.                  |            |
| possible-moves-for ( <i>game p &amp;key recache</i> ) | [Function] |
| <b>Package</b> [leszcz], page 27.                     |            |
| <b>Source</b> [leszcz.lisp], page 8.                  |            |

|  |            |
|--|------------|
| <code>pre--possible-moves-for</code> ( <i>game p</i> )                   | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>pre--possible-moves-for/pawn</code> ( <i>game p</i> )              | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>pre--possible-moves-for/upgrade</code> ( <i>game p next-pos</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>print-castle-rules</code> ( <i>g</i> )                             | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>rdata-packet-&gt;string</code> ( <i>p</i> )                        | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.                                       |            |
| <code>read-pgn</code> ( <i>lst</i> )                                     | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [book.lisp], page 12.                                      |            |
| <code>receive-nickname</code> ( <i>conn hii-packet</i> )                 | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.                                       |            |
| <code>safe-sref</code> ( <i>s n</i> )                                    | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.                                       |            |
| <code>save-game-to-pgn</code> ( <i>game path</i> )                       | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>send-ping-to</code> ( <i>g</i> )                                   | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.                                     |            |
| <code>set-mouse-cursor-1!</code> ( <i>cursor</i> )                       | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.                                    |            |
| <code>shade--screen</code> ( <i>screen n-frames func &amp;key flip</i> ) | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.                                       |            |

|  |            |
|--|------------|
| <code>show-exception-interactively-and-continue</code> ( <i>e</i> )                        | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>show-point-at-cursor</code> ( <i>g</i> &rest <i>r</i> )                              | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>slow-filter-check-moves</code> ( <i>game p lst</i> )                                 | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>start-master-server</code> (&key <i>port side time fen</i> )                         | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>start-p2p-server</code> ( <i>game-handler &amp;key fen opponent-side time port</i> ) | [Function] |
| <b>Package</b> [net], page 40.   |            |
| <b>Source</b> [net.lisp], page 21.   |            |
| <code>toplevel-console</code> ( <i>g</i> )   | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>type-&gt;char</code> ( <i>tp</i> )   | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>type-color-p</code> ( <i>l</i> )   | [Function] |
| <b>Package</b> [raylib], page 25.  |            |
| <b>Source</b> [raylib.lisp], page 17.  |            |
| <code>unload-textures!</code> ( <i>alist</i> )   | [Function] |
| <b>Package</b> [gui], page 38.   |            |
| <b>Source</b> [gui.lisp], page 19.   |            |
| <code>ut/make-texture-lambda</code> ( <i>type</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>v2+</code> ( <i>a b</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |
| <code>v2-</code> ( <i>a b</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.  |            |
| <b>Source</b> [leszcz.lisp], page 8.   |            |

|  |            |
|--|------------|
| <code>vmax</code> ( <i>v</i> )                   | [Function] |
| <b>Package</b> [leszcz], page 27.                |            |
| <b>Source</b> [bot.lisp], page 11.               |            |
| <code>vmin</code> ( <i>v</i> )                   | [Function] |
| <b>Package</b> [leszcz], page 27.                |            |
| <b>Source</b> [bot.lisp], page 11.               |            |
| <code>write-packet</code> ( <i>conn packet</i> ) | [Function] |
| <b>Package</b> [net], page 40.                   |            |
| <b>Source</b> [net.lisp], page 21.               |            |
| <code>z-maybe-en-passant</code> ( <i>game</i> )  | [Function] |
| <b>Package</b> [leszcz], page 27.                |            |
| <b>Source</b> [book.lisp], page 12.              |            |

#### 4.2.5 Generic functions

|   |                  |
|---|------------------|
| <code>capturer-can-be-removed-p</code> ( <i>object</i> )                                | [Generic Reader] |
| <b>Package</b> [gui], page 38.  |                  |
| <b>Methods</b>  |                  |
| <code>capturer-can-be-removed-p</code> ( <i>(capturer [capturer], page 76)</i> )        | [Reader Method]  |
| automatically generated reader method   |                  |
| <b>Source</b> [gui.lisp], page 19.  |                  |
| <b>Target Slot</b>  |                  |
| [can-be-removed-p], page 76.  |                  |
| <code>(setf capturer-can-be-removed-p)</code> ( <i>object</i> )                         | [Generic Writer] |
| <b>Package</b> [gui], page 38.  |                  |
| <b>Methods</b>  |                  |
| <code>(setf capturer-can-be-removed-p)</code> ( <i>(capturer [capturer], page 76)</i> ) | [Writer Method]  |
| automatically generated writer method   |                  |
| <b>Source</b> [gui.lisp], page 19.  |                  |
| <b>Target Slot</b>  |                  |
| [can-be-removed-p], page 76.  |                  |
| <code>capturer-delete</code> ( <i>object</i> )  | [Generic Reader] |
| <b>Package</b> [gui], page 38.  |                  |
| <b>Methods</b>  |                  |
| <code>capturer-delete</code> ( <i>(capturer [capturer], page 76)</i> )                  | [Reader Method]  |
| automatically generated reader method   |                  |
| <b>Source</b> [gui.lisp], page 19.  |                  |
| <b>Target Slot</b>  |                  |
| [delete], page 76.  |                  |

- (setf capturer-delete) (*object*) [Generic Writer]  
**Package** [gui], page 38.  
**Methods**
- (setf capturer-delete) ((*capturer* [*capturer*], [Writer Method]  
*page 76*))  
 automatically generated writer method  
**Source** [gui.lisp], page 19.  
**Target Slot**  
 [delete], page 76.
- game-check-for-mates (*g* &*key call-display*) [Generic Function]  
**Package** [leszcz], page 27.  
**Methods**
- game-check-for-mates ((*g* [*game*], *page 77*) &*key* [Method]  
*call-display*)  
**Source** [leszcz.lisp], page 8.
- game-update-points-cache (*g*) [Generic Function]  
**Package** [leszcz], page 27.  
**Methods**
- game-update-points-cache ((*g* [*game*], *page 77*) [Method]  
**Source** [leszcz.lisp], page 8.
- game-update-possible-moves-cache (*g*) [Generic Function]  
**Package** [leszcz], page 27.  
**Methods**
- game-update-possible-moves-cache ((*g* [*game*], *page 77*) [Method]  
**Source** [leszcz.lisp], page 8.

#### 4.2.6 Structures

- pgn [Structure]  
**Package** [leszcz], page 27.  
**Source** [book.lisp], page 12.  
**Direct superclasses**  
 structure-object.  
**Direct slots**
- event [Slot]  
**Type** string  
**Initform** ""  
**Readers** [pgn-event], page 101.  
**Writers** [(setf pgn-event)], page 101.

|                        |   |        |
|------------------------|---|--------|
| <b>site</b>            |   | [Slot] |
| <b>Type</b>            | string                                  |        |
| <b>Initform</b>        | ""                                      |        |
| <b>Readers</b>         | [pgn-site], page 102.                   |        |
| <b>Writers</b>         | [(setf pgn-site)], page 102.            |        |
| <b>date</b>            |   | [Slot] |
| <b>Package</b>         | local-time.                             |        |
| <b>Type</b>            | string                                  |        |
| <b>Initform</b>        | ""                                      |        |
| <b>Readers</b>         | [pgn-date], page 101.                   |        |
| <b>Writers</b>         | [(setf pgn-date)], page 101.            |        |
| <b>round</b>           |   | [Slot] |
| <b>Package</b>         | common-lisp.                            |        |
| <b>Type</b>            | string                                  |        |
| <b>Initform</b>        | ""                                      |        |
| <b>Readers</b>         | [pgn-round], page 102.                  |        |
| <b>Writers</b>         | [(setf pgn-round)], page 102.           |        |
| <b>white</b>           |   | [Slot] |
| <b>Package</b>         | [leszcz-constants], page 33.            |        |
| <b>Type</b>            | string                                  |        |
| <b>Initform</b>        | ""                                      |        |
| <b>Readers</b>         | [pgn-white], page 102.                  |        |
| <b>Writers</b>         | [(setf pgn-white)], page 102.           |        |
| <b>black</b>           |   | [Slot] |
| <b>Package</b>         | [leszcz-constants], page 33.            |        |
| <b>Type</b>            | string                                  |        |
| <b>Initform</b>        | ""                                      |        |
| <b>Readers</b>         | [pgn-black], page 101.                  |        |
| <b>Writers</b>         | [(setf pgn-black)], page 101.           |        |
| <b>result</b>          |   | [Slot] |
| <b>Type</b>            | string                                  |        |
| <b>Initform</b>        | ""                                      |        |
| <b>Readers</b>         | [pgn-result], page 101.                 |        |
| <b>Writers</b>         | [(setf pgn-result)], page 101.          |        |
| <b>additional-tags</b> |   | [Slot] |
| <b>Type</b>            | list                                    |        |
| <b>Readers</b>         | [pgn-additional-tags], page 101.        |        |
| <b>Writers</b>         | [(setf pgn-additional-tags)], page 101. |        |

`moves` [Slot]

**Type** `list`

**Readers** `[pgn-moves]`, page 101.

**Writers** `[(setf pgn-moves)]`, page 101.

#### 4.2.7 Classes

`type-color` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

**Direct methods**

- `[translate-from-foreign]`, page 73.
- `[translate-into-foreign-memory]`, page 74.

`type-font` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

`type-glyph-info` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

`type-image` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

**Direct methods**

- `[translate-from-foreign]`, page 73.
- `[translate-into-foreign-memory]`, page 73.

`type-rectangle` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.



**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

**Direct methods**

- `[translate-from-foreign]`, page 73.
- `[translate-into-foreign-memory]`, page 73.

`type-render-texture` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

`type-texture` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

**Direct methods**

- `[translate-from-foreign]`, page 73.
- `[translate-into-foreign-memory]`, page 73.

`type-vec2` [Class]

**Package** `[raylib]`, page 25.

**Source** `[raylib.lisp]`, page 17.

**Direct superclasses**

- `foreign-struct-type`.
- `translatable-foreign-type`.

**Direct methods**

- `[translate-from-foreign]`, page 73.
- `[translate-into-foreign-memory]`, page 73.

## 4.2.8 Types

`place ()` [Type]

**Package** `[leszcz]`, page 27.

**Source** `[leszcz.lisp]`, page 8.



## Appendix A Indexes

### A.1 Concepts

(Index is nonexistent)

## A.2 Functions

%

|                                       |    |
|---------------------------------------|----|
| %ask-uname .....                      | 92 |
| %bmenu .....                          | 49 |
| %display-waiting-for-connection ..... | 92 |
| %game-options-menu .....              | 92 |
| %host-game-menu .....                 | 92 |
| %info-menu .....                      | 92 |
| %join-game-menu .....                 | 92 |
| %local-player-vs-player .....         | 93 |
| %main .....                           | 93 |
| %online-host-menu .....               | 93 |
| %online-join-menu .....               | 93 |
| %test-main .....                      | 93 |

(

|  |        |
|--|--------|
| (setf capturer-can-be-removed-p) .....         | 105    |
| (setf capturer-delete) .....                   | 106    |
| (setf fb-bck-p) .....                          | 96     |
| (setf fb-bcq-p) .....                          | 96     |
| (setf fb-bishop) .....                         | 52     |
| (setf fb-black) .....                          | 52     |
| (setf fb-king) .....                           | 53     |
| (setf fb-knight) .....                         | 53     |
| (setf fb-pawn) .....                           | 53     |
| (setf fb-queen) .....                          | 54     |
| (setf fb-rook) .....                           | 54     |
| (setf fb-ticker) .....                         | 97     |
| (setf fb-wck-p) .....                          | 97     |
| (setf fb-wcq-p) .....                          | 97     |
| (setf fb-white) .....                          | 54     |
| (setf game-black-can-castle-kingside-p) .....  | 61     |
| (setf game-black-can-castle-queenside-p) ..... | 61, 62 |
| (setf game-connection) .....                   | 62     |
| (setf game-en-passant-target-square) .....     | 62     |
| (setf game-fb) .....                           | 63     |
| (setf game-fullmove-clock) .....               | 63     |
| (setf game-halfmove-clock) .....               | 64     |
| (setf game-interactive-p) .....                | 64     |
| (setf game-move-history) .....                 | 65     |
| (setf game-opponent-username) .....            | 65     |
| (setf game-pieces) .....                       | 65     |
| (setf game-points-cache) .....                 | 66     |
| (setf game-possible-moves-cache) .....         | 66     |
| (setf game-result) .....                       | 67     |
| (setf game-side) .....                         | 67     |
| (setf game-ticker) .....                       | 68     |
| (setf game-time-begin-turn) .....              | 68     |
| (setf game-time-black) .....                   | 69     |
| (setf game-time-white) .....                   | 69     |
| (setf game-white-can-castle-kingside-p) .....  | 70     |
| (setf game-white-can-castle-queenside-p) ..... | 70     |
| (setf pgn-additional-tags) .....               | 101    |
| (setf pgn-black) .....                         | 101    |
| (setf pgn-date) .....                          | 101    |
| (setf pgn-event) .....                         | 101    |
| (setf pgn-moves) .....                         | 101    |
| (setf pgn-result) .....                        | 101    |
| (setf pgn-round) .....                         | 102    |
| (setf pgn-site) .....                          | 102    |

|                          |     |
|--------------------------|-----|
| (setf pgn-white) .....   | 102 |
| (setf piece-color) ..... | 71  |
| (setf piece-point) ..... | 71  |
| (setf piece-type) .....  | 72  |
| (setf point-x) .....     | 72  |
| (setf point-y) .....     | 72  |

## A

|                            |    |
|----------------------------|----|
| abtn .....                 | 48 |
| add-draw-hook .....        | 49 |
| algebraic->lst .....       | 93 |
| all* .....                 | 90 |
| animate-menu-bg .....      | 49 |
| ask-for-upgrade-type ..... | 93 |

## B

|                          |    |
|--------------------------|----|
| base-texture-of .....    | 93 |
| bb->move-lst .....       | 93 |
| begin-drawing .....      | 49 |
| begin-drawing-1 .....    | 93 |
| begin-scissor-mode ..... | 49 |
| begin-texture-mode ..... | 50 |
| bit-at .....             | 50 |
| bit-set-p .....          | 50 |
| blackp .....             | 50 |

## C

|   |     |
|---|-----|
| capturer-can-be-removed-p .....         | 105 |
| capturer-delete .....                   | 105 |
| cchrp .....                             | 90  |
| cleanup-threads! .....                  | 93  |
| clear-background .....                  | 50  |
| close-window .....                      | 50  |
| cnump .....                             | 90  |
| configure-menu .....                    | 50  |
| connect-to-master .....                 | 93  |
| connect-to-server .....                 | 50  |
| coords->point .....                     | 94  |
| copy-fast-board .....                   | 50  |
| copy-fast-board-1 .....                 | 94  |
| copy-game .....                         | 50  |
| copy-pgn .....                          | 94  |
| copy-piece .....                        | 50  |
| count-bonuses .....                     | 94  |
| count-material-of .....                 | 94  |
| current-capturer-can-be-removed-p ..... | 50  |

**D**

|                            |    |
|----------------------------|----|
| delete-current-capturer!   | 51 |
| delete-current-tooltip!    | 94 |
| display-draw               | 94 |
| display-game-finish-menu   | 94 |
| display-win                | 94 |
| draw-arrow                 | 94 |
| draw-circle                | 51 |
| draw-current-tooltip       | 94 |
| draw-fps                   | 51 |
| draw-game                  | 94 |
| draw-game-control-buttons  | 95 |
| draw-icon                  | 95 |
| draw-line                  | 51 |
| draw-line-1                | 51 |
| draw-menu-button           | 95 |
| draw-move-history          | 95 |
| draw-piece                 | 95 |
| draw-rectangle             | 51 |
| draw-rectangle-lines       | 51 |
| draw-rectangle-lines-2     | 51 |
| draw-rectangle-rounded     | 51 |
| draw-text                  | 51 |
| draw-text-1                | 51 |
| draw-text-2                | 51 |
| draw-text-alagard          | 52 |
| draw-text-alagard-centered | 52 |
| draw-text-centered         | 52 |
| draw-texture               | 52 |
| draw-time                  | 95 |
| dta+bgshade                | 95 |
| dts+bgshade                | 95 |

**E**

|                    |    |
|--------------------|----|
| end-drawing        | 52 |
| end-drawing-1      | 95 |
| end-scissor-mode   | 52 |
| end-texture-mode   | 52 |
| enposition-moveset | 95 |
| enumerate          | 91 |
| evaluate-position  | 95 |

**F**

|                          |    |
|--------------------------|----|
| f/                       | 95 |
| fast-board->game         | 52 |
| fast-board-1-p           | 96 |
| fast-board-p             | 96 |
| fb--knight-check-board   | 96 |
| fb--make-color-board     | 96 |
| fb-bck-p                 | 96 |
| fb-bcq-p                 | 96 |
| fb-bishop                | 52 |
| fb-black                 | 52 |
| fb-display               | 96 |
| fb-filter-check-moves    | 91 |
| fb-filter-check-moves*   | 91 |
| fb-generate-bishop-moves | 53 |
| fb-generate-king-area    | 53 |
| fb-generate-king-moves   | 53 |
| fb-generate-knight-moves | 53 |
| fb-generate-queen-moves  | 53 |
| fb-generate-rook-moves   | 53 |

|   |     |
|---|-----|
| fb-king                                   | 53  |
| fb-knight                                 | 53  |
| fb-make-black-board                       | 96  |
| fb-make-check-board                       | 53  |
| fb-make-piece-board                       | 96  |
| fb-make-white-board                       | 96  |
| fb-pawn                                   | 53  |
| fb-point                                  | 91  |
| fb-point-checked-p                        | 97  |
| fb-queen                                  | 54  |
| fb-rook                                   | 54  |
| fb-ticker                                 | 97  |
| fb-wck-p                                  | 97  |
| fb-wcq-p                                  | 97  |
| fb-white                                  | 54  |
| fb1-at                                    | 91  |
| fb1-king-of                               | 97  |
| fb1-set-p                                 | 91  |
| fen->game                                 | 97  |
| file->vec                                 | 54  |
| filter-own-pieces                         | 97  |
| floatize                                  | 54  |
| for-every-bb                              | 48  |
| from-s16                                  | 54  |
| Function, %ask-uname                      | 92  |
| Function, %bmenu                          | 49  |
| Function, %display-waiting-for-connection | 92  |
| Function, %game-options-menu              | 92  |
| Function, %host-game-menu                 | 92  |
| Function, %info-menu                      | 92  |
| Function, %join-game-menu                 | 92  |
| Function, %local-player-vs-player         | 93  |
| Function, %main                           | 93  |
| Function, %online-host-menu               | 93  |
| Function, %online-join-menu               | 93  |
| Function, %test-main                      | 93  |
| Function, (setf fb-bck-p)                 | 96  |
| Function, (setf fb-bcq-p)                 | 96  |
| Function, (setf fb-bishop)                | 52  |
| Function, (setf fb-black)                 | 52  |
| Function, (setf fb-king)                  | 53  |
| Function, (setf fb-knight)                | 53  |
| Function, (setf fb-pawn)                  | 53  |
| Function, (setf fb-queen)                 | 54  |
| Function, (setf fb-rook)                  | 54  |
| Function, (setf fb-ticker)                | 97  |
| Function, (setf fb-wck-p)                 | 97  |
| Function, (setf fb-wcq-p)                 | 97  |
| Function, (setf fb-white)                 | 54  |
| Function, (setf pgn-additional-tags)      | 101 |
| Function, (setf pgn-black)                | 101 |
| Function, (setf pgn-date)                 | 101 |
| Function, (setf pgn-event)                | 101 |
| Function, (setf pgn-moves)                | 101 |
| Function, (setf pgn-result)               | 101 |
| Function, (setf pgn-round)                | 102 |
| Function, (setf pgn-site)                 | 102 |
| Function, (setf pgn-white)                | 102 |
| Function, add-draw-hook                   | 49  |
| Function, algebraic->lst                  | 93  |
| Function, animate-menu-bg                 | 49  |
| Function, ask-for-upgrade-type            | 93  |
| Function, base-texture-of                 | 93  |
| Function, bb->move-lst                    | 93  |
| Function, begin-drawing                   | 49  |

|   |    |                                    |    |
|---|----|------------------------------------|----|
| Function, begin-drawing-1                   | 93 | Function, fb-bcq-p                 | 96 |
| Function, begin-scissor-mode                | 49 | Function, fb-bishop                | 52 |
| Function, begin-texture-mode                | 50 | Function, fb-black                 | 52 |
| Function, bit-at                            | 50 | Function, fb-display               | 96 |
| Function, bit-set-p                         | 50 | Function, fb-generate-bishop-moves | 53 |
| Function, blackp                            | 50 | Function, fb-generate-king-area    | 53 |
| Function, cleanup-threads!                  | 93 | Function, fb-generate-king-moves   | 53 |
| Function, clear-background                  | 50 | Function, fb-generate-knight-moves | 53 |
| Function, close-window                      | 50 | Function, fb-generate-queen-moves  | 53 |
| Function, configure-menu                    | 50 | Function, fb-generate-rook-moves   | 53 |
| Function, connect-to-master                 | 93 | Function, fb-king                  | 53 |
| Function, connect-to-server                 | 50 | Function, fb-knight                | 53 |
| Function, coords->point                     | 94 | Function, fb-make-black-board      | 96 |
| Function, copy-fast-board                   | 50 | Function, fb-make-check-board      | 53 |
| Function, copy-fast-board-1                 | 94 | Function, fb-make-piece-board      | 96 |
| Function, copy-game                         | 50 | Function, fb-make-white-board      | 96 |
| Function, copy-pgn                          | 94 | Function, fb-pawn                  | 53 |
| Function, copy-piece                        | 50 | Function, fb-point-checked-p       | 97 |
| Function, count-bonuses                     | 94 | Function, fb-queen                 | 54 |
| Function, count-material-of                 | 94 | Function, fb-rook                  | 54 |
| Function, current-capturer-can-be-removed-p | 50 | Function, fb-ticker                | 97 |
| Function, delete-current-capturer!          | 51 | Function, fb-wck-p                 | 97 |
| Function, delete-current-tooltip!           | 94 | Function, fb-wcq-p                 | 97 |
| Function, display-draw                      | 94 | Function, fb-white                 | 54 |
| Function, display-game-finish-menu          | 94 | Function, fb1-king-of              | 97 |
| Function, display-win                       | 94 | Function, fen->game                | 97 |
| Function, draw-arrow                        | 94 | Function, file->vec                | 54 |
| Function, draw-circle                       | 51 | Function, filter-own-pieces        | 97 |
| Function, draw-current-tooltip              | 94 | Function, floatize                 | 54 |
| Function, draw-fps                          | 51 | Function, from-s16                 | 54 |
| Function, draw-game                         | 94 | Function, game--search             | 97 |
| Function, draw-game-control-buttons         | 95 | Function, game->fast-board         | 54 |
| Function, draw-icon                         | 95 | Function, game->fen                | 97 |
| Function, draw-line                         | 51 | Function, game-accept-draw         | 97 |
| Function, draw-line-1                       | 51 | Function, game-accept-takeback     | 98 |
| Function, draw-menu-button                  | 95 | Function, game-do-move             | 98 |
| Function, draw-move-history                 | 95 | Function, game-main-loop           | 98 |
| Function, draw-piece                        | 95 | Function, game-propose-draw        | 98 |
| Function, draw-rectangle                    | 51 | Function, game-resign              | 98 |
| Function, draw-rectangle-lines              | 51 | Function, game-search              | 98 |
| Function, draw-rectangle-lines-2            | 51 | Function, game-set-fen!            | 98 |
| Function, draw-rectangle-rounded            | 51 | Function, game-surrender           | 98 |
| Function, draw-text                         | 51 | Function, generate-sliding-moves   | 98 |
| Function, draw-text-1                       | 51 | Function, get-char-pressed         | 54 |
| Function, draw-text-2                       | 51 | Function, get-chars-pressed        | 54 |
| Function, draw-text-alagard                 | 52 | Function, get-chars-pressed-1      | 54 |
| Function, draw-text-alagard-centered        | 52 | Function, gm-book->ht              | 98 |
| Function, draw-text-centered                | 52 | Function, hash-zobrist             | 98 |
| Function, draw-texture                      | 52 | Function, hasp                     | 98 |
| Function, draw-time                         | 95 | Function, highlight-last-move      | 99 |
| Function, dta+bgshade                       | 95 | Function, highlight-possible-moves | 99 |
| Function, dts+bgshade                       | 95 | Function, image->texture           | 55 |
| Function, end-drawing                       | 52 | Function, init-window              | 55 |
| Function, end-drawing-1                     | 95 | Function, initialize-game          | 99 |
| Function, end-scissor-mode                  | 52 | Function, initialize-window!       | 55 |
| Function, end-texture-mode                  | 52 | Function, input-box                | 55 |
| Function, enposition-moveset                | 95 | Function, key-down-p               | 55 |
| Function, evaluate-position                 | 95 | Function, key-down-p-1             | 55 |
| Function, f/                                | 95 | Function, key-pressed-p            | 55 |
| Function, fast-board->game                  | 52 | Function, key-pressed-p-1          | 55 |
| Function, fast-board-1-p                    | 96 | Function, keys-can-be-captured-p   | 55 |
| Function, fast-board-p                      | 96 | Function, king-of                  | 99 |
| Function, fb--knight-check-board            | 96 | Function, load-font                | 55 |
| Function, fb--make-color-board              | 96 | Function, load-font-from-memory    | 55 |
| Function, fb-bck-p                          | 96 | Function, load-gm-ht               | 99 |

- Function, load-image-from-memory..... 55
- Function, load-textures..... 56
- Function, lognot64..... 56
- Function, lst->pos..... 99
- Function, main..... 56
- Function, make-button..... 56
- Function, make-button\*..... 56
- Function, make-client-packet..... 56
- Function, make-fast-board..... 99
- Function, make-fast-board-1..... 99
- Function, make-font..... 56
- Function, make-input-box..... 56
- Function, make-pgn..... 99
- Function, make-player-vs-bot..... 99
- Function, make-render-texture..... 56
- Function, make-server-packet..... 99
- Function, make-texture..... 56
- Function, maybe-castling-moves..... 99
- Function, maybe-drag..... 100
- Function, maybe-draw-arrow..... 100
- Function, maybe-draw-eval..... 100
- Function, maybe-draw-nerd-stuff..... 100
- Function, maybe-initialize-window!..... 57
- Function, maybe-move-bot..... 100
- Function, maybe-receive-packet..... 57
- Function, maybe-receive-something..... 100
- Function, maybe-set-cursor..... 100
- Function, maybe-switch-nerd..... 100
- Function, maybe-switch-sides..... 100
- Function, measure-text..... 57
- Function, measure-text-1..... 57
- Function, mouse-down-p..... 57
- Function, mouse-pos..... 57
- Function, mouse-pos-1..... 57
- Function, mouse-pressed-p..... 57
- Function, mouse-released-p..... 57
- Function, mouse-x..... 57
- Function, mouse-y..... 57
- Function, move->algebraic..... 100
- Function, move-possible-p..... 100
- Function, normalize..... 100
- Function, old--point-checked-p..... 101
- Function, open-url!..... 57
- Function,
  - p2p-connect-and-return-fen-and-side-data.. 58
- Function, packet->movedata..... 58
- Function, packet->name..... 58
- Function, packet-name->type..... 58
- Function, packet-of-type-p..... 58
- Function, pgn-additional-tags..... 101
- Function, pgn-black..... 101
- Function, pgn-date..... 101
- Function, pgn-event..... 101
- Function, pgn-moves..... 101
- Function, pgn-p..... 101
- Function, pgn-result..... 101
- Function, pgn-round..... 102
- Function, pgn-site..... 102
- Function, pgn-white..... 102
- Function, piece->char..... 102
- Function, piece->zobrist-hash-enum..... 102
- Function, piece-at-point..... 102
- Function, point-checked-p..... 102
- Function, point-in-rect-p..... 58
- Function, pos->lst..... 102
- Function, position-of..... 102
- Function, possible-moves-for..... 102
- Function, pre--possible-moves-for..... 103
- Function, pre--possible-moves-for/pawn..... 103
- Function, pre--possible-moves-for/upgrade... 103
- Function, print-castle-rules..... 103
- Function, rdata-packet->string..... 103
- Function, rdata-packets->string..... 58
- Function, rdas->list..... 58
- Function, read-pgn..... 103
- Function, receive-nickname..... 103
- Function, receive-packet..... 58
- Function, receive-packets..... 58
- Function, remove-draw-hook..... 58
- Function, safe-sref..... 103
- Function, save-game-to-pgn..... 103
- Function, screen->image..... 58
- Function, scroll-delta..... 59
- Function, send-ping-to..... 103
- Function, set-current-capturer!..... 59
- Function, set-exit-key!..... 59
- Function, set-mouse-cursor!..... 59
- Function, set-mouse-cursor-1!..... 103
- Function, set-target-fps!..... 59
- Function, set-texture-filter!..... 59
- Function, shade--screen..... 103
- Function, shade-screen..... 59
- Function, show-exception-
  - interactively-and-continue..... 104
- Function, show-point-at-cursor..... 104
- Function, slow-filter-check-moves..... 104
- Function, start-master-server..... 104
- Function, start-p2p-server..... 104
- Function, start-server..... 59
- Function, string->rdata..... 59
- Function, switch-textures-to..... 59
- Function, text-button..... 59
- Function, texture->image..... 59
- Function, texture-button..... 60
- Function, to-s16..... 60
- Function, toplevel-console..... 104
- Function, toplevel-console-listener..... 60
- Function, type->char..... 104
- Function, type-color-p..... 104
- Function, universal-start-server..... 60
- Function, unload-image!..... 60
- Function, unload-render-texture!..... 60
- Function, unload-texture!..... 60
- Function, unload-textures!..... 104
- Function, unshade-screen..... 60
- Function, ut/make-texture-lambda..... 104
- Function, v2+..... 104
- Function, v2-..... 104
- Function, vmax..... 105
- Function, vmin..... 105
- Function, whitep..... 60
- Function, window-close-p..... 60
- Function, window-ready-p..... 60
- Function, write-packet..... 105
- Function, write-packets..... 60
- Function, z-maybe-en-passant..... 105

## G

- game--search ..... 97
- game->fast-board ..... 54
- game->fen ..... 97
- game->pgn ..... 61
- game-accept-draw ..... 97
- game-accept-takeback ..... 98
- game-black-can-castle-kingside-p ..... 61
- game-black-can-castle-queenside-p ..... 61
- game-check-for-mates ..... 106
- game-connection ..... 62
- game-do-move ..... 98
- game-en-passant-target-square ..... 62
- game-fb ..... 63
- game-fullmove-clock ..... 63
- game-halfmove-clock ..... 63
- game-in-progress-p ..... 64
- game-interactive-p ..... 64
- game-main-loop ..... 98
- game-move-history ..... 64
- game-opponent-username ..... 65
- game-pieces ..... 65
- game-points-cache ..... 66
- game-possible-moves-cache ..... 66
- game-propose-draw ..... 98
- game-resign ..... 98
- game-result ..... 66, 67
- game-search ..... 98
- game-set-fen! ..... 98
- game-side ..... 67
- game-surrender ..... 98
- game-tick ..... 67
- game-ticker ..... 67, 68
- game-time-begin-turn ..... 68
- game-time-black ..... 68
- game-time-white ..... 69
- game-turn ..... 69
- game-turn-black-p ..... 69
- game-turn-white-p ..... 69, 70
- game-update-points-cache ..... 106
- game-update-possible-moves-cache ..... 106
- game-white-can-castle-kingside-p ..... 70
- game-white-can-castle-queenside-p ..... 70
- generate-sliding-moves ..... 98
- Generic Function, (setf
  - capturer-can-be-removed-p) ..... 105
- Generic Function, (setf capturer-delete) ..... 106
- Generic Function, (setf
  - game-black-can-castle-kingside-p) ..... 61
- Generic Function, (setf
  - game-black-can-castle-queenside-p) ..... 61
- Generic Function, (setf game-connection) ..... 62
- Generic Function, (setf
  - game-en-passant-target-square) ..... 62
- Generic Function, (setf game-fb) ..... 63
- Generic Function, (setf game-fullmove-clock) .. 63
- Generic Function, (setf game-halfmove-clock) .. 64
- Generic Function, (setf game-interactive-p) ... 64
- Generic Function, (setf game-move-history) .... 65
- Generic Function, (setf
  - game-opponent-username) ..... 65
- Generic Function, (setf game-pieces) ..... 65
- Generic Function, (setf game-points-cache) .... 66
- Generic Function, (setf
  - game-possible-moves-cache) ..... 66
- Generic Function, (setf game-result) ..... 66
- Generic Function, (setf game-side) ..... 67
- Generic Function, (setf game-tick) ..... 67
- Generic Function, (setf game-ticker) ..... 67
- Generic Function, (setf game-time-begin-turn) ..... 68
- Generic Function, (setf game-time-black) ..... 68
- Generic Function, (setf game-time-white) ..... 69
- Generic Function, (setf game-turn) ..... 69
- Generic Function, (setf game-turn-black-p) ..... 69
- Generic Function, (setf game-turn-white-p) ..... 69
- Generic Function, (setf game-update-points-cache ... 106
- Generic Function, (setf
  - game-update-possible-moves-cache) ..... 106
- Generic Function, (setf
  - game-white-can-castle-kingside-p) ..... 70
- Generic Function, (setf
  - game-white-can-castle-queenside-p) ..... 70
- Generic Function, piece-color ..... 71
- Generic Function, piece-point ..... 71
- Generic Function, piece-type ..... 71
- Generic Function, point-x ..... 72
- Generic Function, point-y ..... 72
- get-char-pressed ..... 54
- get-chars-pressed ..... 54
- get-chars-pressed-1 ..... 54
- Generic Function, (setf
  - game-possible-moves-cache) ..... 66
- Generic Function, (setf game-result) ..... 67
- Generic Function, (setf game-side) ..... 67
- Generic Function, (setf game-ticker) ..... 68
- Generic Function, (setf
  - game-time-begin-turn) ..... 68
- Generic Function, (setf game-time-black) ..... 69
- Generic Function, (setf game-time-white) ..... 69
- Generic Function, (setf
  - game-white-can-castle-kingside-p) ..... 70
- Generic Function, (setf
  - game-white-can-castle-queenside-p) ..... 70
- Generic Function, (setf piece-color) ..... 71
- Generic Function, (setf piece-point) ..... 71
- Generic Function, (setf piece-type) ..... 72
- Generic Function, (setf point-x) ..... 72
- Generic Function, (setf point-y) ..... 72
- Generic Function, capturer-can-be-removed-p.. 105
- Generic Function, capturer-delete ..... 105
- Generic Function, game->pgn ..... 61
- Generic Function,
  - game-black-can-castle-kingside-p ..... 61
- Generic Function,
  - game-black-can-castle-queenside-p ..... 61
- Generic Function, game-check-for-mates ..... 106
- Generic Function, game-connection ..... 62
- Generic Function,
  - game-en-passant-target-square ..... 62
- Generic Function, game-fb ..... 63
- Generic Function, game-fullmove-clock ..... 63
- Generic Function, game-halfmove-clock ..... 63
- Generic Function, game-in-progress-p ..... 64
- Generic Function, game-interactive-p ..... 64
- Generic Function, game-move-history ..... 64
- Generic Function, game-opponent-username ..... 65
- Generic Function, game-pieces ..... 65
- Generic Function, game-points-cache ..... 66
- Generic Function, game-possible-moves-cache ... 66
- Generic Function, game-result ..... 66
- Generic Function, game-side ..... 67
- Generic Function, game-tick ..... 67
- Generic Function, game-ticker ..... 67
- Generic Function, game-time-begin-turn ..... 68
- Generic Function, game-time-black ..... 68
- Generic Function, game-time-white ..... 69
- Generic Function, game-turn ..... 69
- Generic Function, game-turn-black-p ..... 69
- Generic Function, game-turn-white-p ..... 69
- Generic Function, game-update-points-cache ... 106
- Generic Function,
  - game-update-possible-moves-cache ..... 106
- Generic Function,
  - game-white-can-castle-kingside-p ..... 70
- Generic Function,
  - game-white-can-castle-queenside-p ..... 70
- Generic Function, piece-color ..... 71
- Generic Function, piece-point ..... 71
- Generic Function, piece-type ..... 71
- Generic Function, point-x ..... 72
- Generic Function, point-y ..... 72



gm-book->ht ..... 98

## H

hash-zobrist ..... 98  
 hasp ..... 98  
 highlight-last-move ..... 99  
 highlight-possible-moves ..... 99

## I

if\* ..... 91  
 ifz ..... 48  
 image->texture ..... 55  
 init-window ..... 55  
 initialize-game ..... 99  
 initialize-window! ..... 55  
 input-box ..... 55

## K

key-down-p ..... 55  
 key-down-p-1 ..... 55  
 key-pressed-p ..... 55  
 key-pressed-p-1 ..... 55  
 keys-can-be-captured-p ..... 55  
 king-of ..... 99

## L

let-values ..... 49  
 load-font ..... 55  
 load-font-from-memory ..... 55  
 load-gm-ht ..... 99  
 load-image-from-memory ..... 55  
 load-textures ..... 56  
 logbitpr ..... 49  
 lognot64 ..... 56  
 lst->pos ..... 99

## M

Macro, abtn ..... 48  
 Macro, all\* ..... 90  
 Macro, cchrp ..... 90  
 Macro, cnum ..... 90  
 Macro, enumerate ..... 91  
 Macro, fb-filter-check-moves ..... 91  
 Macro, fb-filter-check-moves\* ..... 91  
 Macro, fb-point ..... 91  
 Macro, fb1-at ..... 91  
 Macro, fb1-set-p ..... 91  
 Macro, for-every-bb ..... 48  
 Macro, if\* ..... 91  
 Macro, ifz ..... 48  
 Macro, let-values ..... 49  
 Macro, logbitpr ..... 49  
 Macro, make-trans ..... 91  
 Macro, maybe-catch-all-exceptions ..... 91  
 Macro, maybe-catch-finish ..... 91  
 Macro, maybe-reverse ..... 91  
 Macro, maybe-trace ..... 91  
 Macro, maybe-trap-floats ..... 92  
 Macro, packet-case ..... 49

Macro, s-begins-with ..... 92  
 Macro, safe-piece-type ..... 92  
 Macro, set-bit! ..... 92  
 Macro, set-current-tooltip! ..... 92  
 Macro, thread ..... 49  
 Macro, u64 ..... 92  
 Macro, upy ..... 49  
 Macro, with-continued-mainloop ..... 49  
 Macro, with-scrolling ..... 49  
 main ..... 56  
 make-button ..... 56  
 make-button\* ..... 56  
 make-client-packet ..... 56  
 make-fast-board ..... 99  
 make-fast-board-1 ..... 99  
 make-font ..... 56  
 make-input-box ..... 56  
 make-pgn ..... 99  
 make-player-vs-bot ..... 99  
 make-render-texture ..... 56  
 make-server-packet ..... 99  
 make-texture ..... 56  
 make-trans ..... 91  
 maybe-castling-moves ..... 99  
 maybe-catch-all-exceptions ..... 91  
 maybe-catch-finish ..... 91  
 maybe-drag ..... 100  
 maybe-draw-arrow ..... 100  
 maybe-draw-eval ..... 100  
 maybe-draw-nerd-stuff ..... 100  
 maybe-initialize-window! ..... 57  
 maybe-move-bot ..... 100  
 maybe-receive-packet ..... 57  
 maybe-receive-something ..... 100  
 maybe-reverse ..... 91  
 maybe-set-cursor ..... 100  
 maybe-switch-nerd ..... 100  
 maybe-switch-sides ..... 100  
 maybe-trace ..... 91  
 maybe-trap-floats ..... 92  
 measure-text ..... 57  
 measure-text-1 ..... 57  
 Method, (setf capturer-can-be-removed-p) ... 105  
 Method, (setf capturer-delete) ..... 106  
 Method, (setf  
   game-black-can-castle-kingside-p) ..... 61  
 Method, (setf  
   game-black-can-castle-queenside-p) ..... 62  
 Method, (setf game-connection) ..... 62  
 Method, (setf  
   game-en-passant-target-square) ..... 62  
 Method, (setf game-fb) ..... 63  
 Method, (setf game-fullmove-clock) ..... 63  
 Method, (setf game-halfmove-clock) ..... 64  
 Method, (setf game-interactive-p) ..... 64  
 Method, (setf game-move-history) ..... 65  
 Method, (setf game-opponent-username) ..... 65  
 Method, (setf game-pieces) ..... 65  
 Method, (setf game-points-cache) ..... 66  
 Method, (setf game-possible-moves-cache) ..... 66  
 Method, (setf game-result) ..... 67  
 Method, (setf game-side) ..... 67  
 Method, (setf game-ticker) ..... 68  
 Method, (setf game-time-begin-turn) ..... 68  
 Method, (setf game-time-black) ..... 69

|   |        |
|---|--------|
| Method, (setf game-time-white) .....            | 69     |
| Method, (setf                                   |        |
| game-white-can-castle-kingside-p) .....         | 70     |
| Method, (setf                                   |        |
| game-white-can-castle-queenside-p) .....        | 70     |
| Method, (setf piece-color) .....                | 71     |
| Method, (setf piece-point) .....                | 71     |
| Method, (setf piece-type) .....                 | 72     |
| Method, (setf point-x) .....                    | 72     |
| Method, (setf point-y) .....                    | 72     |
| Method, capturer-can-be-removed-p .....         | 105    |
| Method, capturer-delete .....                   | 105    |
| Method, game->pgn .....                         | 61     |
| Method, game-black-can-castle-kingside-p .....  | 61     |
| Method, game-black-can-castle-queenside-p ..... | 61     |
| Method, game-check-for-mates .....              | 106    |
| Method, game-connection .....                   | 62     |
| Method, game-en-passant-target-square .....     | 62     |
| Method, game-fb .....                           | 63     |
| Method, game-fullmove-clock .....               | 63     |
| Method, game-halfmove-clock .....               | 63     |
| Method, game-in-progress-p .....                | 64     |
| Method, game-interactive-p .....                | 64     |
| Method, game-move-history .....                 | 64     |
| Method, game-opponent-username .....            | 65     |
| Method, game-pieces .....                       | 65     |
| Method, game-points-cache .....                 | 66     |
| Method, game-possible-moves-cache .....         | 66     |
| Method, game-result .....                       | 67     |
| Method, game-side .....                         | 67     |
| Method, game-tick .....                         | 67     |
| Method, game-ticker .....                       | 68     |
| Method, game-time-begin-turn .....              | 68     |
| Method, game-time-black .....                   | 68     |
| Method, game-time-white .....                   | 69     |
| Method, game-turn .....                         | 69     |
| Method, game-turn-black-p .....                 | 69     |
| Method, game-turn-white-p .....                 | 70     |
| Method, game-update-points-cache .....          | 106    |
| Method, game-update-possible-moves-cache .....  | 106    |
| Method, game-white-can-castle-kingside-p .....  | 70     |
| Method, game-white-can-castle-queenside-p ..... | 70     |
| Method, piece-color .....                       | 71     |
| Method, piece-point .....                       | 71     |
| Method, piece-type .....                        | 71     |
| Method, point-x .....                           | 72     |
| Method, point-y .....                           | 72     |
| Method, print-object .....                      | 73     |
| Method, translate-from-foreign .....            | 73     |
| Method, translate-into-foreign-memory .....     | 73, 74 |
| mouse-down-p .....                              | 57     |
| mouse-pos .....                                 | 57     |
| mouse-pos-1 .....                               | 57     |
| mouse-pressed-p .....                           | 57     |
| mouse-released-p .....                          | 57     |
| mouse-x .....                                   | 57     |
| mouse-y .....                                   | 57     |
| move->algebraic .....                           | 100    |
| move-possible-p .....                           | 100    |

## N

|                 |     |
|-----------------|-----|
| normalize ..... | 100 |
|-----------------|-----|

## O

|                            |     |
|----------------------------|-----|
| old--point-checked-p ..... | 101 |
| open-url! .....            | 57  |

## P

|  |     |
|--|-----|
| p2p-connect-and-return-fen-and-side-data ..... | 58  |
| packet->movedata .....                         | 58  |
| packet->name .....                             | 58  |
| packet-case .....                              | 49  |
| packet-name->type .....                        | 58  |
| packet-of-type-p .....                         | 58  |
| pgn-additional-tags .....                      | 101 |
| pgn-black .....                                | 101 |
| pgn-date .....                                 | 101 |
| pgn-event .....                                | 101 |
| pgn-moves .....                                | 101 |
| pgn-p .....                                    | 101 |
| pgn-result .....                               | 101 |
| pgn-round .....                                | 102 |
| pgn-site .....                                 | 102 |
| pgn-white .....                                | 102 |
| piece->char .....                              | 102 |
| piece->zobrist-hash-enum .....                 | 102 |
| piece-at-point .....                           | 102 |
| piece-color .....                              | 71  |
| piece-point .....                              | 71  |
| piece-type .....                               | 71  |
| point-checked-p .....                          | 102 |
| point-in-rect-p .....                          | 58  |
| point-x .....                                  | 72  |
| point-y .....                                  | 72  |
| pos->lst .....                                 | 102 |
| position-of .....                              | 102 |
| possible-moves-for .....                       | 102 |
| pre--possible-moves-for .....                  | 103 |
| pre--possible-moves-for/pawn .....             | 103 |
| pre--possible-moves-for/upgrade .....          | 103 |
| print-castle-rules .....                       | 103 |
| print-object .....                             | 73  |

## R

|                             |     |
|-----------------------------|-----|
| rdata-packet->string .....  | 103 |
| rdata-packets->string ..... | 58  |
| rdatas->list .....          | 58  |
| read-pgn .....              | 103 |
| receive-nickname .....      | 103 |
| receive-packet .....        | 58  |
| receive-packets .....       | 58  |
| remove-draw-hook .....      | 58  |

**S**

s-begins-with ..... 92  
 safe-piece-type ..... 92  
 safe-sref ..... 103  
 save-game-to-pgn ..... 103  
 screen->image ..... 58  
 scroll-delta ..... 59  
 send-ping-to ..... 103  
 set-bit! ..... 92  
 set-current-capturer! ..... 59  
 set-current-tooltip! ..... 92  
 set-exit-key! ..... 59  
 set-mouse-cursor! ..... 59  
 set-mouse-cursor-1! ..... 103  
 set-target-fps! ..... 59  
 set-texture-filter! ..... 59  
 shade--screen ..... 103  
 shade-screen ..... 59  
 show-exception-  
   interactively-and-continue ..... 104  
 show-point-at-cursor ..... 104  
 slow-filter-check-moves ..... 104  
 start-master-server ..... 104  
 start-p2p-server ..... 104  
 start-server ..... 59  
 string->rdata ..... 59  
 switch-textures-to ..... 59

**T**

text-button ..... 59  
 texture->image ..... 59  
 texture-button ..... 60  
 thread ..... 49  
 to-s16 ..... 60  
 toplevel-console ..... 104  
 toplevel-console-listener ..... 60

translate-from-foreign ..... 73  
 translate-into-foreign-memory ..... 73, 74  
 type->char ..... 104  
 type-color-p ..... 104

**U**

u64 ..... 92  
 universal-start-server ..... 60  
 unload-image! ..... 60  
 unload-render-texture! ..... 60  
 unload-texture! ..... 60  
 unload-textures! ..... 104  
 unshade-screen ..... 60  
 upy ..... 49  
 ut/make-texture-lambda ..... 104

**V**

v2+ ..... 104  
 v2- ..... 104  
 vmax ..... 105  
 vmin ..... 105

**W**

whitep ..... 60  
 window-close-p ..... 60  
 window-ready-p ..... 60  
 with-continued-mainloop ..... 49  
 with-scrolling ..... 49  
 write-packet ..... 105  
 write-packets ..... 60

**Z**

z-maybe-en-passant ..... 105

## A.3 Variables

**%**

|  |    |
|--|----|
| <code>%player-vs-alekhine</code> .....   | 83 |
| <code>%player-vs-anand</code> .....      | 83 |
| <code>%player-vs-bot</code> .....        | 83 |
| <code>%player-vs-botvinnik</code> .....  | 83 |
| <code>%player-vs-capablanca</code> ..... | 84 |
| <code>%player-vs-carlsen</code> .....    | 84 |
| <code>%player-vs-caruana</code> .....    | 84 |
| <code>%player-vs-fischer</code> .....    | 84 |
| <code>%player-vs-kasparov</code> .....   | 84 |
| <code>%player-vs-morphy</code> .....     | 84 |
| <code>%player-vs-nakamura</code> .....   | 84 |
| <code>%player-vs-polgarj</code> .....    | 84 |
| <code>%player-vs-tal</code> .....        | 84 |

**\***

|  |    |
|--|----|
| <code>*alagard*</code> .....                       | 45 |
| <code>*alekhine-book*</code> .....                 | 84 |
| <code>*anand-book*</code> .....                    | 84 |
| <code>*arrow-color*</code> .....                   | 84 |
| <code>*arrow-last-point*</code> .....              | 85 |
| <code>*board-begin*</code> .....                   | 45 |
| <code>*board-size*</code> .....                    | 45 |
| <code>*bonus-table*</code> .....                   | 85 |
| <code>*book*</code> .....                          | 85 |
| <code>*book-data*</code> .....                     | 85 |
| <code>*bot-depth*</code> .....                     | 85 |
| <code>*botvinnik-book*</code> .....                | 85 |
| <code>*capablanca-book*</code> .....               | 85 |
| <code>*carlsen-book*</code> .....                  | 85 |
| <code>*caruana-book*</code> .....                  | 85 |
| <code>*color-bg-dark*</code> .....                 | 45 |
| <code>*color-bg-light*</code> .....                | 45 |
| <code>*current-board-evaluation*</code> .....      | 85 |
| <code>*current-game*</code> .....                  | 45 |
| <code>*current-ping*</code> .....                  | 85 |
| <code>*current-screen*</code> .....                | 45 |
| <code>*current-tooltip*</code> .....               | 85 |
| <code>*debug*</code> .....                         | 45 |
| <code>*fischer-book*</code> .....                  | 86 |
| <code>*font*</code> .....                          | 45 |
| <code>*kasparov-book*</code> .....                 | 86 |
| <code>*last-ping-ht*</code> .....                  | 86 |
| <code>*morphy-book*</code> .....                   | 86 |
| <code>*nakamura-book*</code> .....                 | 86 |
| <code>*nerd-p*</code> .....                        | 86 |
| <code>*online-host*</code> .....                   | 45 |
| <code>*opponent-asked-for-takeback-p*</code> ..... | 86 |
| <code>*opponent-proposed-draw-p*</code> .....      | 86 |
| <code>*polgarj-book*</code> .....                  | 86 |
| <code>*prod*</code> .....                          | 45 |
| <code>*random-table*</code> .....                  | 86 |
| <code>*rev-bonus-table*</code> .....               | 86 |
| <code>*takeback-position*</code> .....             | 86 |
| <code>*tal-book*</code> .....                      | 87 |
| <code>*threads*</code> .....                       | 87 |
| <code>*window-height*</code> .....                 | 45 |
| <code>*window-hpad*</code> .....                   | 46 |
| <code>*window-width*</code> .....                  | 46 |
| <code>*window-wpad*</code> .....                   | 46 |

**+**

|   |    |
|---|----|
| <code>+bishop-value+</code> .....                   | 82 |
| <code>+color-black+</code> .....                    | 46 |
| <code>+color-grayish+</code> .....                  | 46 |
| <code>+color-grayish-2+</code> .....                | 87 |
| <code>+color-greenish+</code> .....                 | 46 |
| <code>+color-hax0r-green+</code> .....              | 87 |
| <code>+color-purple+</code> .....                   | 46 |
| <code>+color-redish+</code> .....                   | 46 |
| <code>+color-white+</code> .....                    | 46 |
| <code>+cursor-normal+</code> .....                  | 43 |
| <code>+cursor-pointer+</code> .....                 | 43 |
| <code>+gdata-type+</code> .....                     | 43 |
| <code>+hii-type+</code> .....                       | 43 |
| <code>+hlm/last-from+</code> .....                  | 87 |
| <code>+hlm/last-to+</code> .....                    | 87 |
| <code>+inf</code> .....                             | 43 |
| <code>+initial-fen+</code> .....                    | 43 |
| <code>+invalid-type+</code> .....                   | 43 |
| <code>+key-escape+</code> .....                     | 43 |
| <code>+knight-value+</code> .....                   | 82 |
| <code>+lgames-type+</code> .....                    | 43 |
| <code>+move-type+</code> .....                      | 43 |
| <code>+pawn-value+</code> .....                     | 82 |
| <code>+pgame-type+</code> .....                     | 44 |
| <code>+piece-size+</code> .....                     | 46 |
| <code>+ping-type+</code> .....                      | 44 |
| <code>+port+</code> .....                           | 44 |
| <code>+queen-value+</code> .....                    | 82 |
| <code>+rdata-type+</code> .....                     | 44 |
| <code>+rook-value+</code> .....                     | 82 |
| <code>+texture-filter-anisotropic-16x+</code> ..... | 44 |
| <code>+texture-filter-anisotropic-4x+</code> .....  | 44 |
| <code>+texture-filter-anisotropic-8x+</code> .....  | 44 |
| <code>+texture-filter-bilinear+</code> .....        | 44 |
| <code>+texture-filter-point+</code> .....           | 44 |
| <code>+texture-filter-trilinear+</code> .....       | 44 |
| <code>+texture-size+</code> .....                   | 46 |

**—**

|                         |    |
|-------------------------|----|
| <code>-inf</code> ..... | 44 |
|-------------------------|----|

**A**

|                                    |     |
|------------------------------------|-----|
| <code>additional-tags</code> ..... | 107 |
| <code>alagard-data</code> .....    | 46  |

**B**

|  |         |
|--|---------|
| <code>bck-p</code> .....                         | 75      |
| <code>bcq-p</code> .....                         | 75      |
| <code>bishop</code> .....                        | 76      |
| <code>black</code> .....                         | 74, 107 |
| <code>black-can-castle-kingside-p</code> .....   | 78      |
| <code>black-can-castle-queenside-p</code> .....  | 78      |
| <code>black-texture-alist</code> .....           | 47      |
| <code>black-texture-data-list</code> .....       | 47      |
| <code>black-texture-data-list-pixel</code> ..... | 87      |
| <code>black-texture-data-list-sleek</code> ..... | 87      |

**C**

|  |    |
|--|----|
| can-be-removed-p                           | 76 |
| color                                      | 81 |
| connection                                 | 80 |
| Constant, +bishop-value+                   | 82 |
| Constant, +cursor-normal+                  | 43 |
| Constant, +cursor-pointer+                 | 43 |
| Constant, +gdata-type+                     | 43 |
| Constant, +hii-type+                       | 43 |
| Constant, +inf                             | 43 |
| Constant, +initial-fen+                    | 43 |
| Constant, +invalid-type+                   | 43 |
| Constant, +key-escape+                     | 43 |
| Constant, +knight-value+                   | 82 |
| Constant, +lgames-type+                    | 43 |
| Constant, +move-type+                      | 43 |
| Constant, +pawn-value+                     | 82 |
| Constant, +pgame-type+                     | 44 |
| Constant, +ping-type+                      | 44 |
| Constant, +port+                           | 44 |
| Constant, +queen-value+                    | 82 |
| Constant, +rdata-type+                     | 44 |
| Constant, +rook-value+                     | 82 |
| Constant, +texture-filter-anisotropic-16x+ | 44 |
| Constant, +texture-filter-anisotropic-4x+  | 44 |
| Constant, +texture-filter-anisotropic-8x+  | 44 |
| Constant, +texture-filter-bilinear+        | 44 |
| Constant, +texture-filter-point+           | 44 |
| Constant, +texture-filter-trilinear+       | 44 |
| Constant, -inf                             | 44 |
| Constant, u64-max                          | 82 |
| Constant, z-black-bishop                   | 82 |
| Constant, z-black-king                     | 82 |
| Constant, z-black-knight                   | 82 |
| Constant, z-black-pawn                     | 82 |
| Constant, z-black-queen                    | 83 |
| Constant, z-black-rook                     | 83 |
| Constant, z-white-bishop                   | 83 |
| Constant, z-white-king                     | 83 |
| Constant, z-white-knight                   | 83 |
| Constant, z-white-pawn                     | 83 |
| Constant, z-white-queen                    | 83 |
| Constant, z-white-rook                     | 83 |
| current-capturer                           | 47 |

**D**

|                              |     |
|------------------------------|-----|
| date                         | 107 |
| dct/size                     | 87  |
| delete                       | 76  |
| dmh/font-size                | 87  |
| dmh/height                   | 87  |
| dmh/rect                     | 87  |
| dmh/show                     | 88  |
| dmh/xpad                     | 88  |
| draw-piece/anim-frame        | 88  |
| draw-piece/anim-frame-ticker | 88  |
| draw-piece/piece-on-point    | 88  |
| dt/font-size                 | 88  |

**E**

|                          |     |
|--------------------------|-----|
| en-passant-target-square | 79  |
| event                    | 106 |

**F**

|                |    |
|----------------|----|
| fb             | 80 |
| fullmove-clock | 79 |

**G**

|                 |    |
|-----------------|----|
| gml/ping-ticker | 88 |
|-----------------|----|

**H**

|                |    |
|----------------|----|
| halfmove-clock | 79 |
|----------------|----|

**I**

|                      |    |
|----------------------|----|
| icon-data-alist      | 47 |
| icon-texture-alist   | 47 |
| input-box/content-ht | 47 |
| input-box/current    | 88 |
| interactive-p        | 80 |

**K**

|        |    |
|--------|----|
| king   | 76 |
| knight | 75 |

**L**

|                    |    |
|--------------------|----|
| leszcz-logos-alist | 47 |
| license-text-1     | 47 |
| license-text-2     | 47 |
| logo-data-alist    | 47 |

**M**

|                             |     |
|-----------------------------|-----|
| mainloop-draw-hooks         | 47  |
| maybe-drag/capturer         | 88  |
| maybe-drag/piece            | 88  |
| maybe-switch-sides/capturer | 88  |
| menu/bg-dark                | 47  |
| menu/bg-light               | 48  |
| menu/frame-ctr              | 48  |
| menu/frame-ctr-magic        | 48  |
| menu/frame-ctr-mod          | 48  |
| move-history                | 78  |
| moves                       | 108 |

**O**

|                   |    |
|-------------------|----|
| opponent-username | 80 |
|-------------------|----|

**P**

|                      |    |
|----------------------|----|
| pawn                 | 75 |
| pawn-magic-l         | 88 |
| pawn-magic-r         | 89 |
| pieces               | 78 |
| point                | 81 |
| points-cache         | 79 |
| possible-moves-cache | 79 |

**Q**

|       |    |
|-------|----|
| queen | 76 |
|-------|----|

## R

|        |         |
|--------|---------|
| result | 79, 107 |
| rook   | 75      |
| round  | 107     |

## S

|   |         |
|---|---------|
| scroll-multiplier                       | 89      |
| side                                    | 79      |
| site                                    | 107     |
| Slot, additional-tags                   | 107     |
| Slot, bck-p                             | 75      |
| Slot, bcq-p                             | 75      |
| Slot, bishop                            | 76      |
| Slot, black                             | 74, 107 |
| Slot, black-can-castle-kingside-p       | 78      |
| Slot, black-can-castle-queenside-p      | 78      |
| Slot, can-be-removed-p                  | 76      |
| Slot, color                             | 81      |
| Slot, connection                        | 80      |
| Slot, date                              | 107     |
| Slot, delete                            | 76      |
| Slot, en-passant-target-square          | 79      |
| Slot, event                             | 106     |
| Slot, fb                                | 80      |
| Slot, fullmove-clock                    | 79      |
| Slot, halfmove-clock                    | 79      |
| Slot, interactive-p                     | 80      |
| Slot, king                              | 76      |
| Slot, knight                            | 75      |
| Slot, move-history                      | 78      |
| Slot, moves                             | 108     |
| Slot, opponent-username                 | 80      |
| Slot, pawn                              | 75      |
| Slot, pieces                            | 78      |
| Slot, point                             | 81      |
| Slot, points-cache                      | 79      |
| Slot, possible-moves-cache              | 79      |
| Slot, queen                             | 76      |
| Slot, result                            | 79, 107 |
| Slot, rook                              | 75      |
| Slot, round                             | 107     |
| Slot, side                              | 79      |
| Slot, site                              | 107     |
| Slot, ticker                            | 74, 79  |
| Slot, time-begin-turn                   | 80      |
| Slot, time-black                        | 80      |
| Slot, time-white                        | 80      |
| Slot, type                              | 81      |
| Slot, wck-p                             | 74      |
| Slot, wcq-p                             | 75      |
| Slot, white                             | 74, 107 |
| Slot, white-can-castle-kingside-p       | 78      |
| Slot, white-can-castle-queenside-p      | 78      |
| Slot, x                                 | 81      |
| Slot, y                                 | 81      |
| smc/current                             | 89      |
| Special Variable, %player-vs-alekhine   | 83      |
| Special Variable, %player-vs-anand      | 83      |
| Special Variable, %player-vs-bot        | 83      |
| Special Variable, %player-vs-botvinnik  | 83      |
| Special Variable, %player-vs-capablanca | 84      |
| Special Variable, %player-vs-carlsen    | 84      |
| Special Variable, %player-vs-caruana    | 84      |

|   |    |
|---|----|
| Special Variable, %player-vs-fischer              | 84 |
| Special Variable, %player-vs-kasparov             | 84 |
| Special Variable, %player-vs-morphy               | 84 |
| Special Variable, %player-vs-nakamura             | 84 |
| Special Variable, %player-vs-polgarj              | 84 |
| Special Variable, %player-vs-tal                  | 84 |
| Special Variable, *alagard*                       | 45 |
| Special Variable, *alekhine-book*                 | 84 |
| Special Variable, *anand-book*                    | 84 |
| Special Variable, *arrow-color*                   | 84 |
| Special Variable, *arrow-last-point*              | 85 |
| Special Variable, *board-begin*                   | 45 |
| Special Variable, *board-size*                    | 45 |
| Special Variable, *bonus-table*                   | 85 |
| Special Variable, *book*                          | 85 |
| Special Variable, *book-data*                     | 85 |
| Special Variable, *bot-depth*                     | 85 |
| Special Variable, *botvinnik-book*                | 85 |
| Special Variable, *capablanca-book*               | 85 |
| Special Variable, *carlsen-book*                  | 85 |
| Special Variable, *caruana-book*                  | 85 |
| Special Variable, *color-bg-dark*                 | 45 |
| Special Variable, *color-bg-light*                | 45 |
| Special Variable, *current-board-evaluation*      | 85 |
| Special Variable, *current-game*                  | 45 |
| Special Variable, *current-ping*                  | 85 |
| Special Variable, *current-screen*                | 45 |
| Special Variable, *current-tooltip*               | 85 |
| Special Variable, *debug*                         | 45 |
| Special Variable, *fischer-book*                  | 86 |
| Special Variable, *font*                          | 45 |
| Special Variable, *kasparov-book*                 | 86 |
| Special Variable, *last-ping-ht*                  | 86 |
| Special Variable, *morphy-book*                   | 86 |
| Special Variable, *nakamura-book*                 | 86 |
| Special Variable, *nerd-p*                        | 86 |
| Special Variable, *online-host*                   | 45 |
| Special Variable, *opponent-asked-for-takeback-p* | 86 |
| Special Variable, *opponent-proposed-draw-p*      | 86 |
| Special Variable, *polgarj-book*                  | 86 |
| Special Variable, *prod*                          | 45 |
| Special Variable, *random-table*                  | 86 |
| Special Variable, *rev-bonus-table*               | 86 |
| Special Variable, *takeback-position*             | 86 |
| Special Variable, *tal-book*                      | 87 |
| Special Variable, *threads*                       | 87 |
| Special Variable, *window-height*                 | 45 |
| Special Variable, *window-hpad*                   | 46 |
| Special Variable, *window-width*                  | 46 |
| Special Variable, *window-wpad*                   | 46 |
| Special Variable, +color-black+                   | 46 |
| Special Variable, +color-grayish+                 | 46 |
| Special Variable, +color-grayish-2+               | 87 |
| Special Variable, +color-greenish+                | 46 |
| Special Variable, +color-hax0r-green+             | 87 |
| Special Variable, +color-purple+                  | 46 |
| Special Variable, +color-redish+                  | 46 |
| Special Variable, +color-white+                   | 46 |
| Special Variable, +hlm/last-from+                 | 87 |
| Special Variable, +hlm/last-to+                   | 87 |
| Special Variable, +piece-size+                    | 46 |
| Special Variable, +texture-size+                  | 46 |
| Special Variable, alagard-data                    | 46 |
| Special Variable, black-texture-alist             | 47 |

|   |         |
|---|---------|
| Special Variable, <code>black-texture-data-list</code> .....    | 47      |
| Special Variable,   |         |
| <code>black-texture-data-list-pixel</code> .....                | 87      |
| Special Variable,   |         |
| <code>black-texture-data-list-sleek</code> .....                | 87      |
| Special Variable, <code>current-capturer</code> .....           | 47      |
| Special Variable, <code>dct/size</code> .....                   | 87      |
| Special Variable, <code>dmh/font-size</code> .....              | 87      |
| Special Variable, <code>dmh/height</code> .....                 | 87      |
| Special Variable, <code>dmh/rect</code> .....                   | 87      |
| Special Variable, <code>dmh/show</code> .....                   | 88      |
| Special Variable, <code>dmh/xpad</code> .....                   | 88      |
| Special Variable, <code>draw-piece/anim-frame</code> .....      | 88      |
| Special Variable,   |         |
| <code>draw-piece/anim-frame-ticker</code> .....                 | 88      |
| Special Variable, <code>draw-piece/piece-on-point</code> .....  | 88      |
| Special Variable, <code>dt/font-size</code> .....               | 88      |
| Special Variable, <code>gml/ping-ticker</code> .....            | 88      |
| Special Variable, <code>icon-data-alist</code> .....            | 47      |
| Special Variable, <code>icon-texture-alist</code> .....         | 47      |
| Special Variable, <code>input-box/content-ht</code> .....       | 47      |
| Special Variable, <code>input-box/current</code> .....          | 88      |
| Special Variable, <code>leszcz-logos-alist</code> .....         | 47      |
| Special Variable, <code>license-text-1</code> .....             | 47      |
| Special Variable, <code>license-text-2</code> .....             | 47      |
| Special Variable, <code>logo-data-alist</code> .....            | 47      |
| Special Variable, <code>mainloop-draw-hooks</code> .....        | 47      |
| Special Variable, <code>maybe-drag/capturer</code> .....        | 88      |
| Special Variable, <code>maybe-drag/piece</code> .....           | 88      |
| Special Variable,   |         |
| <code>maybe-switch-sides/capturer</code> .....                  | 88      |
| Special Variable, <code>menu/bg-dark</code> .....               | 47      |
| Special Variable, <code>menu/bg-light</code> .....              | 48      |
| Special Variable, <code>menu/frame-ctr</code> .....             | 48      |
| Special Variable, <code>menu/frame-ctr-magic</code> .....       | 48      |
| Special Variable, <code>menu/frame-ctr-mod</code> .....         | 48      |
| Special Variable, <code>pawn-magic-l</code> .....               | 88      |
| Special Variable, <code>pawn-magic-r</code> .....               | 89      |
| Special Variable, <code>scroll-multiplier</code> .....          | 89      |
| Special Variable, <code>smc/current</code> .....                | 89      |
| Special Variable, <code>spleen-data</code> .....                | 48      |
| Special Variable, <code>tb/color-bg</code> .....                | 89      |
| Special Variable, <code>tb/color-bg-hover</code> .....          | 89      |
| Special Variable, <code>tb/color-margin</code> .....            | 89      |
| Special Variable, <code>tb/color-margin-unselected</code> ..... | 89      |
| Special Variable, <code>tb/color-text</code> .....              | 89      |
| Special Variable, <code>tb/padx</code> .....                    | 48      |
| Special Variable, <code>texture-options</code> .....            | 48      |
| Special Variable, <code>toplevel-console/capturer</code> .....  | 89      |
| Special Variable, <code>toplevel-console/font-size</code> ..... | 89      |
| Special Variable, <code>toplevel-console/height</code> .....    | 89      |
| Special Variable, <code>toplevel-console/log</code> .....       | 89      |
| Special Variable, <code>toplevel-console/state</code> .....     | 90      |
| Special Variable, <code>ut/pad-size</code> .....                | 90      |
| Special Variable, <code>ut/upgrade-bishop-texture</code> .....  | 90      |
| Special Variable, <code>ut/upgrade-knight-texture</code> .....  | 90      |
| Special Variable, <code>ut/upgrade-queen-texture</code> .....   | 90      |
| Special Variable, <code>ut/upgrade-rook-texture</code> .....    | 90      |
| Special Variable, <code>ut/upgrade-size</code> .....            | 90      |
| Special Variable, <code>white-texture-alist</code> .....        | 48      |
| Special Variable, <code>white-texture-data-list</code> .....    | 48      |
| Special Variable,   |         |
| <code>white-texture-data-list-pixel</code> .....                | 90      |
| Special Variable,   |         |
| <code>white-texture-data-list-sleek</code> .....                | 90      |
| <code>spleen-data</code> .....                                  | 48      |
| <b>T</b>  |         |
| <code>tb/color-bg</code> .....                                  | 89      |
| <code>tb/color-bg-hover</code> .....                            | 89      |
| <code>tb/color-margin</code> .....                              | 89      |
| <code>tb/color-margin-unselected</code> .....                   | 89      |
| <code>tb/color-text</code> .....                                | 89      |
| <code>tb/padx</code> .....                                      | 48      |
| <code>texture-options</code> .....                              | 48      |
| <code>ticker</code> .....                                       | 74, 79  |
| <code>time-begin-turn</code> .....                              | 80      |
| <code>time-black</code> .....                                   | 80      |
| <code>time-white</code> .....                                   | 80      |
| <code>toplevel-console/capturer</code> .....                    | 89      |
| <code>toplevel-console/font-size</code> .....                   | 89      |
| <code>toplevel-console/height</code> .....                      | 89      |
| <code>toplevel-console/log</code> .....                         | 89      |
| <code>toplevel-console/state</code> .....                       | 90      |
| <code>type</code> .....   | 81      |
| <b>U</b>  |         |
| <code>u64-max</code> .....                                      | 82      |
| <code>ut/pad-size</code> .....                                  | 90      |
| <code>ut/upgrade-bishop-texture</code> .....                    | 90      |
| <code>ut/upgrade-knight-texture</code> .....                    | 90      |
| <code>ut/upgrade-queen-texture</code> .....                     | 90      |
| <code>ut/upgrade-rook-texture</code> .....                      | 90      |
| <code>ut/upgrade-size</code> .....                              | 90      |
| <b>W</b>  |         |
| <code>wck-p</code> .....  | 74      |
| <code>wcq-p</code> .....  | 75      |
| <code>white</code> .....  | 74, 107 |
| <code>white-can-castle-kingside-p</code> .....                  | 78      |
| <code>white-can-castle-queenside-p</code> .....                 | 78      |
| <code>white-texture-alist</code> .....                          | 48      |
| <code>white-texture-data-list</code> .....                      | 48      |
| <code>white-texture-data-list-pixel</code> .....                | 90      |
| <code>white-texture-data-list-sleek</code> .....                | 90      |
| <b>X</b>  |         |
| <code>x</code> .....  | 81      |
| <b>Y</b>  |         |
| <code>y</code> .....  | 81      |

**Z**

|                     |    |                     |    |
|---------------------|----|---------------------|----|
| z-black-bishop..... | 82 | z-black-rook.....   | 83 |
| z-black-king.....   | 82 | z-white-bishop..... | 83 |
| z-black-knight..... | 82 | z-white-king.....   | 83 |
| z-black-pawn.....   | 82 | z-white-knight..... | 83 |
| z-black-queen.....  | 83 | z-white-pawn.....   | 83 |
|                     |    | z-white-queen.....  | 83 |
|                     |    | z-white-rook.....   | 83 |



## A.4 Data types

### B

book.lisp..... 12  
 bot.lisp..... 11

### C

capturer..... 76  
 Class, capturer..... 76  
 Class, game..... 77  
 Class, piece..... 80  
 Class, point..... 81  
 Class, type-color..... 108  
 Class, type-font..... 108  
 Class, type-glyph-info..... 108  
 Class, type-image..... 108  
 Class, type-rectangle..... 108  
 Class, type-render-texture..... 109  
 Class, type-texture..... 109  
 Class, type-vec2..... 109  
 color..... 82  
 Condition, finalize-condition..... 74

### F

fast..... 4, 34  
 fast-board..... 74  
 fast-board-1..... 75  
 fast.asd..... 8  
 fast.lisp..... 22  
 File, book.lisp..... 12  
 File, bot.lisp..... 11  
 File, fast.asd..... 8  
 File, fast.lisp..... 22  
 File, gui.asd..... 7  
 File, gui.lisp..... 19  
 File, leszcz-constants.asd..... 7  
 File, leszcz-constants.lisp..... 15  
 File, leszcz-types.asd..... 7  
 File, leszcz-types.lisp..... 14  
 File, leszcz.asd..... 7  
 File, leszcz.lisp..... 8  
 File, net.asd..... 7  
 File, net.lisp..... 21  
 File, raylib.asd..... 7  
 File, raylib.lisp..... 17  
 finalize-condition..... 74

### G

game..... 77  
 gui..... 4, 38  
 gui.asd..... 7  
 gui.lisp..... 19

### L

leszcz..... 3, 27  
 leszcz-constants..... 3, 33  
 leszcz-constants.asd..... 7  
 leszcz-constants.lisp..... 15  
 leszcz-types..... 3, 36  
 leszcz-types.asd..... 7  
 leszcz-types.lisp..... 14  
 leszcz.asd..... 7  
 leszcz.lisp..... 8

### N

net..... 4, 40  
 net.asd..... 7  
 net.lisp..... 21

### P

Package, fast..... 34  
 Package, gui..... 38  
 Package, leszcz..... 27  
 Package, leszcz-constants..... 33  
 Package, leszcz-types..... 36  
 Package, net..... 40  
 Package, raylib..... 25  
 pgn..... 106  
 piece..... 80  
 place..... 109  
 point..... 81

### R

raylib..... 4, 25  
 raylib.asd..... 7  
 raylib.lisp..... 17

### S

Structure, fast-board..... 74  
 Structure, fast-board-1..... 75  
 Structure, pgn..... 106  
 System, fast..... 4  
 System, gui..... 4  
 System, leszcz..... 3  
 System, leszcz-constants..... 3  
 System, leszcz-types..... 3  
 System, net..... 4  
 System, raylib..... 4

**T**

|                  |     |                          |     |
|------------------|-----|--------------------------|-----|
| Type, color..... | 82  | type-glyph-info.....     | 108 |
| Type, place..... | 109 | type-image.....          | 108 |
| type-color.....  | 108 | type-rectangle.....      | 108 |
| type-font.....   | 108 | type-render-texture..... | 109 |
|                  |     | type-texture.....        | 109 |
|                  |     | type-vec2.....           | 109 |