

MP attributes backends **bit32** blobs boolean  
buffers builders caches **callback** callbacks  
catcodes characters chemistry commands  
containers context converters **coroutine**  
ctxrunner **debug** dir directives document  
documentdata environment **epdf** experiments ffi  
figures **file** **fio** floats **font** fonts functions  
global graphics **gzip** **img** interactions  
interfaces **io** job **lang** languages layouts **lfs**  
libraries lmx logs lpdf **lpeg** **ltn12** lua luatex  
lxml **math** mathematics **md5** metapost **mime**  
moduledata modules mp **mplib** noads **node** nodes  
number objects **os** **package** pagebuilders  
parametersets **pdf** pdfscanner physics  
publications regimes resolvers sandbox scripts  
set sio **socket** sorters statistics **status**  
storage streams **string** structures **table** **tex**  
texconditionals **texconfig** texconstants texifs  
**texio** texitdefined texmodes texsystemmodes  
thirddata **token** tokens tracers trackers  
typesetters **unicode** url userdata utf8  
utilities vf visualizers xml **zip** **zlib**

# ConTEXt MkIV

# global (alias: \_G)

|                    |          |                             |          |
|--------------------|----------|-----------------------------|----------|
| FFISUPPORTED       | function | dofile                      | function |
| INITEXMODE         | boolean  | done                        | boolean  |
| LUAMAJORVERSION    | number   | environment                 | table    |
| LUAMINORVERSION    | number   | epdf                        | table    |
| LUAEXCOREVERSION   | number   | error                       | function |
| LUAEXENGINE        | string   | experiments                 | table    |
| LUAEXFUNCTIONALITY | number   | ffi                         | table    |
| LUAEXVERSION       | number   | ffilib                      | function |
| LUAVERSION         | number   | figures                     | table    |
| MP                 | table    | file                        | table    |
| _LUAVERSION        | number   | fio                         | table    |
| arg                | table    | floats                      | table    |
| assert             | function | font                        | table    |
| attributes         | table    | fonts                       | table    |
| backends           | table    | frozen                      | boolean  |
| bit32              | table    | functions                   | table    |
| blobs              | table    | getmetatable                | function |
| blockrequire       | function | getpos                      | function |
| boolean            | table    | getvpos                     | function |
| buffers            | table    | global                      | table    |
| builders           | table    | grammar_parsed_text_one_nop | userdata |
| caches             | table    | grammar_parsed_text_one_yes | userdata |
| callback           | table    | grammar_parsed_text_two_nop | userdata |
| callbacks          | table    | grammar_parsed_text_two_yes | userdata |
| catcodes           | table    | grammar_unparsed_text_nop   | userdata |
| characters         | table    | grammar_unparsed_text_yes   | userdata |
| checkimage         | function | graphics                    | table    |
| chemistry          | table    | gregorian_to_jalali         | function |
| collectgarbage     | function | gzip                        | table    |
| commands           | table    | img                         | table    |
| containers         | table    | inspect                     | function |
| context            | function | interactions                | table    |
| converters         | table    | interfaces                  | table    |
| coroutine          | table    | io                          | table    |
| ctxrunner          | table    | ipairs                      | function |
| debug              | table    | jalali_to_gregorian         | function |
| dimen              | function | job                         | table    |
| dir                | table    | lang                        | table    |
| directives         | table    | languages                   | table    |
| document           | table    | last                        | number   |
| documentdata       | table    | layouts                     | table    |

|                 |          |                 |            |
|-----------------|----------|-----------------|------------|
| lfs             | table    | rawset          | function   |
| libraries       | table    | regimes         | table      |
| lmx             | table    | require         | function   |
| load            | function | requireswiglib  | function   |
| loadfile        | function | resolvers       | table      |
| loadstring      | function | ruledspace      | function   |
| logs            | table    | sandbox         | table      |
| lpdf            | table    | scripts         | table      |
| lpeg            | table    | select          | function   |
| ltn12           | table    | set             | table      |
| lua             | table    | setinspector    | function   |
| luatex          | table    | setmetatable    | function   |
| lxml            | table    | sio             | table      |
| math            | table    | socket          | table      |
| mathematics     | table    | sorters         | table      |
| md5             | table    | statistics      | table      |
| metapost        | table    | status          | table      |
| mime            | table    | storage         | table      |
| module          | function | streams         | table      |
| moduledata      | table    | string          | table      |
| modules         | table    | structures      | table      |
| mp              | function | swiglib         | function   |
| mplib           | table    | table           | table      |
| next            | function | tex             | table      |
| noads           | table    | texconditionals | data table |
| node            | table    | texconfig       | table      |
| nodes           | table    | texconstants    | data table |
| number          | table    | texifs          | data table |
| objects         | table    | texio           | table      |
| optionalrequire | function | texisdefined    | function   |
| os              | table    | texmodes        | data table |
| package         | table    | texsystemmodes  | data table |
| pagebuilders    | table    | thirddata       | table      |
| pairs           | function | toboolean       | function   |
| parametersets   | table    | token           | table      |
| pcall           | function | tokens          | table      |
| pdf             | table    | tonumber        | function   |
| pdfscanner      | table    | tostring        | function   |
| physics         | table    | tracers         | table      |
| print           | function | trackers        | table      |
| publications    | table    | type            | function   |
| rawequal        | function | typesetters     | table      |
| rawget          | function | unicode         | table      |
| rawlen          | function | unpack          | function   |

|                        |                     |                          |                       |
|------------------------|---------------------|--------------------------|-----------------------|
| <code>url</code>       | <code>table</code>  | <code>vf</code>          | <code>table</code>    |
| <code>userdata</code>  | <code>table</code>  | <code>visualizers</code> | <code>table</code>    |
| <code>utf</code>       | <code>table</code>  | <code>xml</code>         | <code>table</code>    |
| <code>utf8</code>      | <code>table</code>  | <code>xpcall</code>      | <code>function</code> |
| <code>utilities</code> | <code>table</code>  | <code>zip</code>         | <code>table</code>    |
| <code>v</code>         | <code>number</code> | <code>zlib</code>        | <code>table</code>    |

# attributes (context)

**applyoverloads**    function

**colorintents**    table

    N attribute

    D data

    F enable

    F handler

    F register

    D registered

**colors**    table

    N attribute

    F cmyk

    F cmyktogray

    F cmyktorgb

    F colorcomponents

    D counts

    B couple

    F currentmodel

    F currentnamedmodel

    D data

    N default

    F defineintermediatecolor

    F definemultitonecolor

    F defineprocesscolor

    F definesimplegray

    F definespotcolor

    F definetransparency

    F enable

    F filter

    F forcedmodel

    F forcesupport

    F formatcolor

    F formatgray

    F getpagecolormodel

    F gray

    F graytohsv

    F handler

    F hsvtorgb

    F iccprofile

    F isblack

    N main

    S model

    D models

    F mpcolor

    F mpnamedcolor

    F mpoptions

    F namedcolorattributes

    N none

    F popset

    F processcolorcomponents

    F pushset

    F register

    D registered

    F registerspotcolor

    F rgb

    F rgbtocmyk

    F rgbtorgb

    F rgbtohsv

    N selector

    F setlist

    F setmodel

    F setpagecolormodel

    D sets

    F spec

    F spot

    F spotcolorname

    F spotcolorparent

    F spotcolorvalue

    B supported

    F toattributes

    F transparencycomponents

    B triggering

    F usecolors

    D valid

    F value

    D values

    B weightgray

**define**    function

**effects**    table

    N attribute

    D data

    F enable

|                       |            |                          |        |
|-----------------------|------------|--------------------------|--------|
| F handler             |            | N darken                 |        |
| F register            |            | N difference             |        |
| D registered          |            | N exclusion              |        |
| D values              |            | N hardlight              |        |
| <b>handlers</b>       | table      | N hue                    |        |
| <b>list</b>           | data table | N lighten                |        |
| <b>markasoverload</b> | function   | N luminosity             |        |
| <b>names</b>          | data table | N multiply               |        |
| <b>negatives</b>      | table      | N none                   |        |
| N attribute           |            | N normal                 |        |
| D data                |            | N overlay                |        |
| F enable              |            | N saturation             |        |
| F handler             |            | N screen                 |        |
| F register            |            | N softlight              |        |
| D registered          |            | N none                   |        |
| F set                 |            | F register               |        |
| <b>numbers</b>        | data table | D registered             |        |
| <b>ofnode</b>         | function   | B supported              |        |
| <b>private</b>        | function   | F toattribute            |        |
| <b>public</b>         | function   | B triggering             |        |
| <b>restore</b>        | function   | F value                  |        |
| <b>save</b>           | function   | D values                 |        |
| <b>showcurrent</b>    | function   | <b>unsetvalue</b>        | number |
| <b>states</b>         | table      | <b>viewerlayers</b>      | table  |
| F disabletriggering   |            | N attribute              |        |
| F enabletriggering    |            | F cleanup                |        |
| F finalize            |            | D data                   |        |
| F initialize          |            | F define                 |        |
| F process             |            | F definedlayoutcomponent |        |
| F selective           |            | F enable                 |        |
| F stacked             |            | F forcesupport           |        |
| F stacker             |            | F handler                |        |
| <b>system</b>         | function   | B hasorder               |        |
| <b>tooverloads</b>    | function   | D listwise               |        |
| <b>transparencies</b> | table      | F register               |        |
| N attribute           |            | D registered             |        |
| D data                |            | F resolve_begin          |        |
| F enable              |            | F resolve_end            |        |
| F forcesupport        |            | F resolve_reset          |        |
| F handler             |            | F resolve_step           |        |
| T names               |            | D scopes                 |        |
| N color               |            | F setfeatures            |        |
| N colorburn           |            | F start                  |        |
| N colordodge          |            | F stop                   |        |

B supported

D values

# backends (context)

## **codeinjections** table

F boxresourcedimensions  
F registerboxresource  
F restoreboxresource

## **current** string

## **defaults** table

T codeinjections  
F gethpos  
F getmatrix  
F getpos  
F getvpos  
F hasmatrix  
T nodeinjections  
T registrations  
D tables

## **included** table

B context  
B date  
B id  
B metadata  
B pdf

## **install** function

## **nodeinjections** table

F restore  
F save  
F transform

## **nothing** function

## **pdf** table

T codeinjections  
F addbookmarks  
F attachmentid  
F clonefield  
F definefield  
F definefieldset  
F defineviewerlayer  
F embedfile  
F enabletags  
F exportformdata  
F getbookmarks  
F getdefaultfieldvalue  
F getfieldcategory

F getfieldset  
F getformatoption  
F gethpos  
F getmatrix  
F getoutputfilename  
F getpos  
F getpreviewfigure  
F getvpos  
F hasmatrix  
F insertrenderingwindow  
F mergebookmarks  
F mergereferences  
F mergeviewerlayers  
F prerollreference  
F presetsymbol  
F presetsymbollist  
F processrendering  
F registerdocumentcloseaction  
F registerdocumentopenaction  
F registeredsymbol  
F registerpagecloseaction  
F registerpageopenaction  
F registersymbol  
F setfieldcalculationset  
F setfigurealternative  
F setfigurecolorspace  
F setfiguremask  
F setformat  
F setformsmethod  
F setpagetransition  
F setupcanvas  
F setupidentity  
F setxmpfile  
F startlayer  
F startunicodetoactualtext  
F startunicodetoactualtextdirect  
F stoplayer  
F stopunicodetoactualtext  
F stopunicodetoactualtextdirect  
F supportedformats  
F unicodetoactualtext



- F useviewerlayer
- F validfield
- F validfieldcategory
- F validfieldset
- S comment
- T nodeinjections
  - F addtags
  - F annotation
  - F attachfile
  - F changestackedlayer
  - F cmykcolor
  - F comment
  - F destination
  - F effect
  - F graycolor
  - F injectbitmap
  - F insertmovie
  - F insertsound
  - F insertswf
  - F insertu3d
  - F knockout
  - F negative
  - F overprint
  - F positive

- F reference
- F rgbcolor
- F spotcolor
- F startlayer
- F startstackedlayer
- F stoplayer
- F stopstackedlayer
- F transparency
- F typesetfield
- T registrations
  - F cmykindexcolor
  - F cmykspotcolor
  - F getspotcolorreference
  - F grayindexcolor
  - F grayspotcolor
  - F rgbindexcolor
  - F rgbspotcolor
  - F spotcolorname
  - F transparency

T tables

D vfpspecials

|                      |          |
|----------------------|----------|
| <b>registrations</b> | table    |
| <b>tables</b>        | table    |
| <b>timestamp</b>     | function |

## bit32 (basic lua)

**arshift** function

**band** function

**bnot** function

**bor** function

**btest** function

**bxor** function

**extract** function

**lrotate** function

**lshift** function

**replace** function

**rrotate** function

**rshift** function

## blobs (context)

|                   |          |
|-------------------|----------|
| <b>append</b>     | function |
| <b>dimensions</b> | function |
| <b>dispose</b>    | function |
| <b>new</b>        | function |
| <b>pack</b>       | function |
| <b>strdp</b>      | function |
| <b>strhd</b>      | function |

|                |          |
|----------------|----------|
| <b>strht</b>   | function |
| <b>strwd</b>   | function |
| <b>tohpack</b> | function |
| <b>tonodes</b> | function |
| <b>tovpack</b> | function |
| <b>write</b>   | function |

## boolean (context)

**tocontext** function

**tonumber** function

# buffers (context)

|                       |          |                         |          |
|-----------------------|----------|-------------------------|----------|
| <b>append</b>         | function | <b>F</b> hassomecontent |          |
| <b>assign</b>         | function | <b>F</b> next           |          |
| <b>collectcontent</b> | function | <b>F</b> place          |          |
| <b>erase</b>          | function | <b>F</b> reset          |          |
| <b>exists</b>         | function | <b>F</b> save           |          |
| <b>getcontent</b>     | function | <b>prepend</b>          | function |
| <b>getlines</b>       | function | <b>raw</b>              | function |
| <b>loadcontent</b>    | function | <b>run</b>              | function |
| <b>parallel</b>       | table    | <b>undent</b>           | function |
| <b>F</b> define       |          |                         |          |

# builders (context)

## kernel table

- F hyphenation
- F kerning
- F ligaturing
- F mlist\_to\_hlist
- T originals
  - F hyphenate
  - F kerning
  - F ligaturing

## paragraphs table

- T constructors
  - N attribute
  - F define
  - F disable
  - F enable
  - F handler
- T methods
  - F basic
  - F default
  - F hpack
  - F oneline
- D names
- D numbers
- F set
- F start
- F stop
- T expansion
  - F trace
- F kepttogether
- F registertogether
- T solutions
  - T splitters
    - F define
    - F optimize

- T registered
- F reset
- F set
- F split
- F start
- F stop
- F tag

## profiling table

- F add
- F distance
- F fixedprofile
- F get
- F list
- F pagehandler
- F profilebox
- F set

## vspacing table

- F analyze
- D categories
- F collapsevbox
- T data
  - D map
  - D skip
  - D snapmethods
- F definesnapmethod
- B fixed
- F pagehandler
- F resetprevdepth
- F setmap
- F setskip
- F snapbox
- F tocategories
- F tocategory
- F vboxhandler

## cache (context)

|                             |          |                             |          |
|-----------------------------|----------|-----------------------------|----------|
| <b>ask</b>                  | boolean  | <b>is_writable</b>          | function |
| <b>base</b>                 | string   | <b>loadcontent</b>          | function |
| <b>collapsecontent</b>      | function | <b>loaddata</b>             | function |
| <b>configfiles</b>          | function | <b>more</b>                 | string   |
| <b>contentstate</b>         | function | <b>relocate</b>             | boolean  |
| <b>defaults</b>             | table    | <b>savecontent</b>          | function |
| <b>define</b>               | function | <b>savedata</b>             | function |
| <b>direct</b>               | boolean  | <b>setfirstwritablefile</b> | function |
| <b>force</b>                | boolean  | <b>setluanames</b>          | function |
| <b>getfirstreadablefile</b> | function | <b>tree</b>                 | string   |
| <b>getreadablepaths</b>     | function | <b>treehash</b>             | function |
| <b>getwritablepath</b>      | function | <b>usedpaths</b>            | function |
| <b>hashed</b>               | function |                             |          |

## callback (basic tex)

**find**      function  
**list**      function

**register** overloaded function



# callbacks (context)

|                           |            |                         |
|---------------------------|------------|-------------------------|
| <b>freeze</b>             | function   | B insert_local_par      |
| <b>known</b>              | function   | B kerning               |
| <b>list</b>               | data table | B ligaturing            |
| <b>pop</b>                | function   | B linebreak_filter      |
| <b>push</b>               | function   | B mlist_to_hlist        |
| <b>register</b>           | function   | B open_read_file        |
| <b>report</b>             | function   | B post_linebreak_filter |
| <b>supported</b>          | table      | B pre_dump              |
| B append_to_vlist_filter  |            | B pre_linebreak_filter  |
| B build_page_insert       |            | B pre_output_filter     |
| B buildpage_filter        |            | B process_input_buffer  |
| B call_edit               |            | B process_jobname       |
| B contribute_filter       |            | B process_output_buffer |
| B define_font             |            | B process_rule          |
| B find_cidmap_file        |            | B read_cidmap_file      |
| B find_data_file          |            | B read_data_file        |
| B find_enc_file           |            | B read_enc_file         |
| B find_font_file          |            | B read_font_file        |
| B find_format_file        |            | B read_map_file         |
| B find_image_file         |            | B read_opentype_file    |
| B find_map_file           |            | B read_pk_file          |
| B find_opentype_file      |            | B read_truetype_file    |
| B find_output_file        |            | B read_type1_file       |
| B find_pk_file            |            | B read_vf_file          |
| B find_read_file          |            | B show_error_hook       |
| B find_truetype_file      |            | B show_error_message    |
| B find_type1_file         |            | B show_lua_error_hook   |
| B find_vf_file            |            | B show_warning_message  |
| B find_write_file         |            | B start_file            |
| B finish_pdffile          |            | B start_page_number     |
| B finish_pdfpage          |            | B start_run             |
| B finish_synctex_callback |            | B stop_file             |
| B glyph_not_found         |            | B stop_page_number      |
| B glyph_stream_provider   |            | B stop_run              |
| B hpack_filter            |            | B vpack_filter          |
| B hpack_quality           |            | B vpack_quality         |
| B hyphenate               |            |                         |

## catcodes (context)

**names** data table

**numbers** data table

**register** function

# characters (context)

|                       |            |                              |            |
|-----------------------|------------|------------------------------|------------|
| <b>activeoffset</b>   | number     | <b>is_spacing</b>            | data table |
| <b>adobename</b>      | function   | <b>lcchars</b>               | data table |
| <b>bidirectional</b>  | data table | <b>lccode</b>                | function   |
| <b>blockrange</b>     | function   | <b>lccodes</b>               | data table |
| <b>blocks</b>         | data table | <b>lettered</b>              | function   |
| <b>casemap</b>        | table      | <b>lhash</b>                 | data table |
| <b>categories</b>     | data table | <b>linebreaks</b>            | data table |
| <b>category</b>       | function   | <b>lower</b>                 | function   |
| <b>categorytags</b>   | data table | <b>mathlists</b>             | data table |
| <b>classifiers</b>    | table      | <b>mirrors</b>               | table      |
| <b>collapsed</b>      | data table | <b>otfscripts</b>            | data table |
| <b>contextname</b>    | function   | <b>private</b>               | table      |
| <b>csletters</b>      | data table | <b>ranges</b>                | data table |
| <b>data</b>           | data table | <b>registerentities</b>      | function   |
| <b>decomposed</b>     | data table | <b>remap_hangul_syllable</b> | function   |
| <b>description</b>    | function   | <b>setactivecatcodes</b>     | function   |
| <b>descriptions</b>   | data table | <b>setlettercatcodes</b>     | function   |
| <b>detailtags</b>     | data table | <b>shape</b>                 | function   |
| <b>directions</b>     | table      | <b>shaped</b>                | function   |
| <b>emoji</b>          | table      | <b>shash</b>                 | data table |
| F compact             |            | <b>shchars</b>               | data table |
| F known               |            | <b>shcodes</b>               | data table |
| F resolve             |            | <b>showstring</b>            | function   |
| <b>emojized</b>       | function   | <b>specialchars</b>          | data table |
| <b>encodes</b>        | data table | <b>specials</b>              | data table |
| <b>entities</b>       | data table | <b>splits</b>                | table      |
| <b>fallbacks</b>      | data table | T char                       |            |
| <b>filters</b>        | data table | T compat                     |            |
| <b>fractions</b>      | table      | <b>subscripts</b>            | table      |
| <b>fromnumber</b>     | function   | <b>superscripts</b>          | table      |
| <b>fschars</b>        | data table | <b>synonyms</b>              | data table |
| <b>fscodes</b>        | data table | <b>tex</b>                   | table      |
| <b>getrange</b>       | function   | D accentmapping              |            |
| <b>graphemes</b>      | data table | D commandmapping             |            |
| <b>hangul</b>         | data table | F defineaccents              |            |
| <b>initialize</b>     | function   | F safechar                   |            |
| <b>is_character</b>   | data table | F toutf                      |            |
| <b>is_command</b>     | data table | F toutfpattern               |            |
| <b>is_letter</b>      | data table | <b>textclasses</b>           | table      |
| <b>is_mark</b>        | data table | <b>tonumber</b>              | function   |
| <b>is_punctuation</b> | data table | <b>ucchars</b>               | data table |

**uccode**  
**uccodes**  
**uhash**

function  
data table  
data table

**unicodechar**  
**upper**

function  
function

## chemistry (context)

|                       |            |
|-----------------------|------------|
| <b>component</b>      | function   |
| <b>define</b>         | function   |
| <b>definitions</b>    | data table |
| <b>format</b>         | string     |
| <b>inlinechemical</b> | function   |
| <b>instance</b>       | string     |
| <b>method</b>         | string     |

|                       |          |
|-----------------------|----------|
| <b>molecule</b>       | function |
| <b>moleculeparser</b> | userdata |
| <b>start</b>          | function |
| <b>stop</b>           | function |
| <b>structures</b>     | number   |
| <b>undefine</b>       | function |

## containers (context)

**cleanname** function  
**content** function  
**define** function  
**is\_usable** function

**is\_valid** function  
**read** function  
**usecache** boolean  
**write** function

## converters (context)

|                           |          |                          |            |
|---------------------------|----------|--------------------------|------------|
| <b>A</b>                  | function | <b>cn-c</b>              | function   |
| <b>A:es</b>               | function | <b>convert</b>           | function   |
| <b>A:ru</b>               | function | <b>decimals</b>          | function   |
| <b>A:sl</b>               | function | <b>define</b>            | function   |
| <b>AK</b>                 | function | <b>hexstringtonumber</b> | function   |
| <b>Alphabetic</b>         | function | <b>hour</b>              | function   |
| <b>Alphabetic:es</b>      | function | <b>i</b>                 | function   |
| <b>Alphabetic:ru</b>      | function | <b>isleapyear</b>        | function   |
| <b>Alphabetic:sl</b>      | function | <b>lchexnumber</b>       | function   |
| <b>Character</b>          | function | <b>lchexnumbers</b>      | function   |
| <b>Characters</b>         | function | <b>leapyear</b>          | function   |
| <b>I</b>                  | function | <b>lower</b>             | function   |
| <b>KA</b>                 | function | <b>max</b>               | function   |
| <b>KR</b>                 | function | <b>maxchrs</b>           | function   |
| <b>R</b>                  | function | <b>minute</b>            | function   |
| <b>RK</b>                 | function | <b>month</b>             | function   |
| <b>Romannumerals</b>      | function | <b>nicenumber</b>        | function   |
| <b>Russiannumerals</b>    | function | <b>nofdays</b>           | function   |
| <b>Sloveniannumerals</b>  | function | <b>number</b>            | function   |
| <b>Spanishnumerals</b>    | function | <b>numbers</b>           | function   |
| <b>Word</b>               | function | <b>octnumber</b>         | function   |
| <b>Words</b>              | function | <b>octstringtonumber</b> | function   |
| <b>a</b>                  | function | <b>ordinal</b>           | function   |
| <b>a:es</b>               | function | <b>r</b>                 | function   |
| <b>a:ru</b>               | function | <b>rawcharacter</b>      | function   |
| <b>a:sl</b>               | function | <b>romannumerals</b>     | function   |
| <b>abjadnodotnumerals</b> | function | <b>russiannumerals</b>   | function   |
| <b>abjadnumerals</b>      | function | <b>second</b>            | function   |
| <b>alphabetic</b>         | function | <b>sequences</b>         | data table |
| <b>alphabetic:es</b>      | function | <b>settime</b>           | function   |
| <b>alphabetic:ru</b>      | function | <b>sloveniannumerals</b> | function   |
| <b>alphabetic:sl</b>      | function | <b>spaceddigits</b>      | function   |
| <b>character</b>          | function | <b>spanishnumerals</b>   | function   |
| <b>characters</b>         | function | <b>textime</b>           | function   |
| <b>chineseallnumerals</b> | function | <b>toabjad</b>           | function   |
| <b>chinesecapnumerals</b> | function | <b>tochinese</b>         | function   |
| <b>chinesenumerals</b>    | function | <b>toroman</b>           | function   |
| <b>chr</b>                | function | <b>totime</b>            | function   |
| <b>chrs</b>               | function | <b>uchexnumber</b>       | function   |
| <b>cn</b>                 | function | <b>uchexnumbers</b>      | function   |
| <b>cn-a</b>               | function | <b>upper</b>             | function   |

**verbose**

D data

F translate

**weekday**

table

function

**word**

**words**

**year**

function

function

function



## coroutine (basic lua)

|                    |          |
|--------------------|----------|
| <b>create</b>      | function |
| <b>isyieldable</b> | function |
| <b>resume</b>      | function |
| <b>running</b>     | function |

|               |          |
|---------------|----------|
| <b>status</b> | function |
| <b>wrap</b>   | function |
| <b>yield</b>  | function |

# ctxrunner (context)

|                     |          |                  |            |
|---------------------|----------|------------------|------------|
| <b>load</b>         | function | <b>prepfiles</b> | data table |
| <b>preparedfile</b> | function | <b>resolve</b>   | function   |

## debug (basic lua)

|                     |          |
|---------------------|----------|
| <b>debug</b>        | function |
| <b>gethook</b>      | function |
| <b>getinfo</b>      | function |
| <b>getlocal</b>     | function |
| <b>getmetatable</b> | function |
| <b>getregistry</b>  | function |
| <b>getupvalue</b>   | function |
| <b>getuservalue</b> | function |

|                     |          |
|---------------------|----------|
| <b>sethook</b>      | function |
| <b>setlocal</b>     | function |
| <b>setmetatable</b> | function |
| <b>setupvalue</b>   | function |
| <b>setuservalue</b> | function |
| <b>traceback</b>    | function |
| <b>upvalueid</b>    | function |
| <b>upvaluejoin</b>  | function |

## dir (context)

|                       |          |
|-----------------------|----------|
| <b>collectpattern</b> | function |
| <b>current</b>        | function |
| <b>expandname</b>     | function |
| <b>found</b>          | function |
| <b>glob</b>           | function |
| <b>globdirs</b>       | function |
| <b>globfiles</b>      | function |

|                    |          |
|--------------------|----------|
| <b>globpattern</b> | function |
| <b>ls</b>          | function |
| <b>makedirs</b>    | function |
| <b>mkdirs</b>      | function |
| <b>pop</b>         | function |
| <b>push</b>        | function |

## directives (context)

|                |            |
|----------------|------------|
| <b>data</b>    | data table |
| <b>default</b> | function   |
| <b>disable</b> | function   |
| <b>done</b>    | table      |
| <b>enable</b>  | function   |
| <b>list</b>    | function   |

|                 |          |
|-----------------|----------|
| <b>name</b>     | string   |
| <b>register</b> | function |
| <b>report</b>   | function |
| <b>reset</b>    | function |
| <b>show</b>     | function |
| <b>value</b>    | function |

# document (context)

|                    |            |                           |           |            |
|--------------------|------------|---------------------------|-----------|------------|
| <b>arguments</b>   | data table |                           | D modes   |            |
| <b>files</b>       | table      |                           | D modules |            |
| <b>functions</b>   | table      | <b>setargument</b>        |           | function   |
| <b>getargument</b> | function   | <b>setcommandline</b>     |           | function   |
| <b>getfilename</b> | function   | <b>setdefaultargument</b> |           | function   |
| <b>options</b>     | table      | <b>setenvironments</b>    |           | function   |
| T commandline      |            | <b>setfilename</b>        |           | function   |
| D environments     |            | <b>setfilenames</b>       |           | function   |
| D modes            |            | <b>setmodes</b>           |           | function   |
| D modules          |            | <b>setmodules</b>         |           | function   |
| T ctxfile          |            | <b>variables</b>          |           | data table |
| D environments     |            |                           |           |            |

## environment (context)

|                            |            |                               |            |
|----------------------------|------------|-------------------------------|------------|
| <b>argument</b>            | function   | <b>luafile</b>                | function   |
| <b>arguments</b>           | data table | <b>luafilechunk</b>           | function   |
| <b>basicengines</b>        | data table | <b>luatexengine</b>           | string     |
| <b>currentrun</b>          | number     | <b>luatexfuncitonality</b>    | number     |
| <b>default_texmfcnf</b>    | string     | <b>luatexversion</b>          | number     |
| <b>definefilefallback</b>  | function   | <b>maxnofruns</b>             | number     |
| <b>definefilesynonym</b>   | function   | <b>originalarguments</b>      | data table |
| <b>engineflags</b>         | data table | <b>outputfilename</b>         | string     |
| <b>filename</b>            | string     | <b>ownbin</b>                 | string     |
| <b>files</b>               | table      | <b>ownmain</b>                | string     |
| <b>filesynonyms</b>        | data table | <b>ownname</b>                | string     |
| <b>forcedruns</b>          | number     | <b>ownpath</b>                | string     |
| <b>getargument</b>         | function   | <b>prerollrun</b>             | boolean    |
| <b>homedir</b>             | string     | <b>rawarguments</b>           | data table |
| <b>initex</b>              | boolean    | <b>reconstructcommandline</b> | function   |
| <b>initexmode</b>          | boolean    | <b>relativepath</b>           | function   |
| <b>initializearguments</b> | function   | <b>setargument</b>            | function   |
| <b>initializefilenames</b> | function   | <b>splitarguments</b>         | function   |
| <b>inputfilebarename</b>   | string     | <b>suffix</b>                 | string     |
| <b>inputfilename</b>       | string     | <b>texfile</b>                | function   |
| <b>inputfilesuffix</b>     | string     | <b>texmfos</b>                | string     |
| <b>jobfilefullname</b>     | string     | <b>texos</b>                  | string     |
| <b>jobfilename</b>         | string     | <b>texroot</b>                | string     |
| <b>jobfilesuffix</b>       | string     | <b>truefilename</b>           | function   |
| <b>jobname</b>             | string     | <b>uselua module</b>          | function   |
| <b>kindofrun</b>           | number     | <b>usemodules</b>             | function   |
| <b>loadexamodes</b>        | function   | <b>validengines</b>           | data table |
| <b>loadluafile</b>         | function   | <b>version</b>                | string     |

# epdf (extra tex)

|                            |          |                           |                     |
|----------------------------|----------|---------------------------|---------------------|
| <b>Array</b>               | function | <b>Object_Type</b>        | function            |
| <b>Attribute</b>           | function | <b>PDFRectangle</b>       | function            |
| <b>AttributeOwner_Type</b> | function | <b>StructElement_Type</b> | function            |
| <b>Attribute_Type</b>      | function | <b>open</b>               | overloaded function |
| <b>Dict</b>                | function | <b>openMemStream</b>      | function            |
| <b>Object</b>              | function | <b>type</b>               | function            |



## experiments (context)

|                |            |
|----------------|------------|
| <b>data</b>    | data table |
| <b>default</b> | function   |
| <b>disable</b> | function   |
| <b>enable</b>  | function   |
| <b>list</b>    | function   |
| <b>name</b>    | string     |

|                 |          |
|-----------------|----------|
| <b>register</b> | function |
| <b>report</b>   | function |
| <b>reset</b>    | function |
| <b>show</b>     | function |
| <b>value</b>    | function |

# figures (context)

|                         |            |                         |            |
|-------------------------|------------|-------------------------|------------|
| <b>applyratio</b>       | function   | <b>F ofindex</b>        |            |
| <b>badname</b>          | function   | <b>F package</b>        |            |
| <b>bases</b>            | data table | <b>F print</b>          |            |
| <b>bitmapimage</b>      | function   | <b>F scan</b>           |            |
| <b>boxnumber</b>        | number     | <b>F serialize</b>      |            |
| <b>cachepaths</b>       | data table | <b>F tonode</b>         |            |
| <b>check</b>            | function   | <b>F totable</b>        |            |
| <b>checkers</b>         | data table | <b>F types</b>          |            |
| <b>converters</b>       | data table | <b>F write</b>          |            |
| <b>current</b>          | function   | <b>include</b>          | function   |
| <b>defaultdepth</b>     | number     | <b>includes</b>         | data table |
| <b>defaultheight</b>    | number     | <b>initialize</b>       | function   |
| <b>defaultsearch</b>    | boolean    | <b>loaded</b>           | data table |
| <b>defaultwidth</b>     | number     | <b>localpaths</b>       | data table |
| <b>done</b>             | function   | <b>magics</b>           | data table |
| <b>dummy</b>            | function   | <b>mergegoodies</b>     | function   |
| <b>exists</b>           | data table | <b>nofmissing</b>       | number     |
| <b>exists</b>           | function   | <b>nofprocessed</b>     | number     |
| <b>formats</b>          | data table | <b>order</b>            | data table |
| <b>found</b>            | data table | <b>paths</b>            | data table |
| <b>get</b>              | function   | <b>patterns</b>         | data table |
| <b>getinfo</b>          | function   | <b>pop</b>              | function   |
| <b>getrealpage</b>      | function   | <b>preferquality</b>    | boolean    |
| <b>guess</b>            | function   | <b>programs</b>         | data table |
| <b>hash</b>             | function   | <b>push</b>             | function   |
| <b>identifiers</b>      | data table | <b>registerpattern</b>  | function   |
| <b>identify</b>         | function   | <b>registerresource</b> | function   |
| <b>images</b>           | table      | <b>registersuffix</b>   | function   |
| <b>F boxes</b>          |            | <b>resources</b>        | data table |
| <b>F check</b>          |            | <b>scale</b>            | function   |
| <b>F checksize</b>      |            | <b>set</b>              | function   |
| <b>F clone</b>          |            | <b>setlookups</b>       | function   |
| <b>F copy</b>           |            | <b>setmemstream</b>     | function   |
| <b>F immediatewrite</b> |            | <b>setorder</b>         | function   |
| <b>F keys</b>           |            | <b>setpaths</b>         | function   |
| <b>F new</b>            |            | <b>suffixes</b>         | data table |
| <b>F node</b>           |            | <b>used</b>             | data table |

## file (basic lua)

|                          |          |
|--------------------------|----------|
| <b>addsuffix</b>         | function |
| <b>basename</b>          | function |
| <b>checksum</b>          | function |
| <b>collapsepath</b>      | function |
| <b>copy</b>              | function |
| <b>dirname</b>           | function |
| <b>expandname</b>        | function |
| <b>extname</b>           | function |
| <b>is_qualified_path</b> | function |
| <b>is_readable</b>       | function |
| <b>is_rootbased_path</b> | function |
| <b>is_writable</b>       | function |
| <b>isreadable</b>        | function |
| <b>iswritable</b>        | function |
| <b>join</b>              | function |
| <b>joinpath</b>          | function |
| <b>loadchecksum</b>      | function |
| <b>nameonly</b>          | function |
| <b>nametotable</b>       | function |
| <b>needs Updating</b>    | function |

|                      |          |
|----------------------|----------|
| <b>needsupdating</b> | function |
| <b>pathpart</b>      | function |
| <b>readdata</b>      | function |
| <b>removesuffix</b>  | function |
| <b>replacesuffix</b> | function |
| <b>reslash</b>       | function |
| <b>robustname</b>    | function |
| <b>savechecksum</b>  | function |
| <b>savedata</b>      | function |
| <b>size</b>          | function |
| <b>splitbase</b>     | function |
| <b>splitname</b>     | function |
| <b>splitpath</b>     | function |
| <b>strip</b>         | function |
| <b>suffix</b>        | function |
| <b>suffixes</b>      | function |
| <b>suffixesonly</b>  | function |
| <b>suffixonly</b>    | function |
| <b>syncmtimes</b>    | function |

## fio (extra lua)

|                        |          |                       |          |
|------------------------|----------|-----------------------|----------|
| <b>checkpermission</b> | function | <b>readfixed4</b>     | function |
| <b>getposition</b>     | function | <b>readinteger1</b>   | function |
| <b>read2dot14</b>      | function | <b>readinteger2</b>   | function |
| <b>readbytes</b>       | function | <b>readinteger3</b>   | function |
| <b>readbytetable</b>   | function | <b>readinteger4</b>   | function |
| <b>readcardinal1</b>   | function | <b>readline</b>       | function |
| <b>readcardinal2</b>   | function | <b>recordfilename</b> | function |
| <b>readcardinal3</b>   | function | <b>setposition</b>    | function |
| <b>readcardinal4</b>   | function | <b>skipposition</b>   | function |
| <b>readfixed2</b>      | function |                       |          |

# floats (context)

|                         |          |                   |          |
|-------------------------|----------|-------------------|----------|
| <b>analysemethod</b>    | function | <b>nofstacked</b> | function |
| <b>checkedpagefloat</b> | function | <b>pop</b>        | function |
| <b>collect</b>          | function | <b>push</b>       | function |
| <b>consult</b>          | function | <b>resave</b>     | function |
| <b>flush</b>            | function | <b>save</b>       | function |
| <b>getvariable</b>      | function | <b>stacked</b>    | function |
| <b>hasstacked</b>       | function |                   |          |

## font (basic tex)

|                      |                     |                     |          |
|----------------------|---------------------|---------------------|----------|
| <b>addcharacters</b> | function            | <b>id</b>           | function |
| <b>current</b>       | function            | <b>max</b>          | function |
| <b>define</b>        | function            | <b>nextid</b>       | function |
| <b>each</b>          | function            | <b>read_tfm</b>     | function |
| <b>fonts</b>         | table               | <b>read_vf</b>      | function |
| <b>frozen</b>        | function            | <b>setexpansion</b> | function |
| <b>getfont</b>       | overloaded function | <b>setfont</b>      | function |

# fonts (context)

|                           |       |                         |
|---------------------------|-------|-------------------------|
| <b>analyzers</b>          | table |                         |
| D features                |       | F currentfonthasfeature |
| D initializers            |       | D designsizes           |
| D methods                 |       | D dontembed             |
| F setstate                |       | F enhanceparameters     |
| D states                  |       | T enhancers             |
| B useunicodemarks         |       | T afm                   |
|                           |       | F apply                 |
| <b>checkers</b>           | table | F patch                 |
| F getmissing              |       | T patches               |
| F missing                 |       | F register              |
| F placeholder             |       | F report                |
| <b>cid</b>                | table | F register              |
| F getmap                  |       | F report                |
| F loadfile                |       | T otf                   |
| <b>collections</b>        | table | F addfeature            |
| F checkenabled            |       | F apply                 |
| F clonevector             |       | F enhance               |
| F define                  |       | F patch                 |
| T definitions             |       | T patches               |
| F found                   |       | F register              |
| F prepare                 |       | F report                |
| F process                 |       | F register              |
| F registermain            |       | F report                |
| F report                  |       | T tfm                   |
| F reset                   |       | F apply                 |
| T vectors                 |       | F patch                 |
| <b>constructors</b>       | table | T patches               |
| F addcharacters           |       | F register              |
| F addcoreunicodes         |       | F report                |
| F aftercopyingcharacters  |       | F register              |
| F applymanipulators       |       | F report                |
| F assignmathparameters    |       | N factor                |
| B autocleanup             |       | T features              |
| F beforecopyingcharacters |       | D afm                   |
| D cache                   |       | D otf                   |
| B cacheintex              |       | D tfm                   |
| F calculatescale          |       | F finalize              |
| F checkedfeatures         |       | F getfeatureaction      |
| F checkedfilename         |       | F getprivate            |
| F cleanupable             |       | T handlers              |
| F collectprocessors       |       | T afm                   |

|                            |                                                     |
|----------------------------|-----------------------------------------------------|
| B autoprefixed             | F getalternate                                      |
| D cache                    | F getgsub                                           |
| D features                 | F getkern                                           |
| F getkern                  | F getmultiple                                       |
| T helpdata                 | F getsubstitution                                   |
| D bothkerned               | T handlers                                          |
| D leftkerned               | F devanagari_remove_joiners                         |
| D ligatures                | F devanagari_reorder_matras                         |
| D rightkerned              | F devanagari_reorder_pre_base_reordering_consonants |
| D texligatures             | F devanagari_reorder_reph                           |
| F load                     | F gpos_context                                      |
| T readers                  | F gpos_contextchain                                 |
| F getinfo                  | F gpos_cursive                                      |
| F loadfont                 | F gpos_mark2base                                    |
| F loadshapes               | F gpos_mark2ligature                                |
| F setfeatures              | F gpos_mark2mark                                    |
| B syncspace                | F gpos_pair                                         |
| N version                  | F gpos_single                                       |
| T otf                      | F gsub_alternate                                    |
| F addfeature               | F gsub_context                                      |
| F basemodeinitializer      | F gsub_contextchain                                 |
| D cache                    | F gsub_ligature                                     |
| F collectlookups           | F gsub_multiple                                     |
| T coverup                  | F gsub_reversecontextchain                          |
| T actions                  | F gsub_single                                       |
| F alternate                | F trigger_space_kerns                               |
| F chainposition            | T helpers                                           |
| F chainsubstitution        | F blockligatures                                    |
| F kern                     | F pardirstate                                       |
| F ligature                 | F txtfirststate                                     |
| F multiple                 | F load                                              |
| F pair                     | F loadoutlinedata                                   |
| F single                   | F loadstreamdata                                    |
| F substitution             | F modeinitializer                                   |
| F register                 | D pdfcache                                          |
| S stepkey                  | F plugininitializer                                 |
| F dataset                  | F pluginprocessor                                   |
| F datasetpositionprocessor | T plugins                                           |
| S defaultbasealternate     | T readers                                           |
| S defaultnodealternate     | F addunicodetable                                   |
| D features                 | F avar                                              |
| F featuresinitializer      | F cbdt                                              |
| F featuresprocessor        | F cblc                                              |
| F getactualtext            | F cff                                               |



|                               |                        |
|-------------------------------|------------------------|
| F cff2                        | F getfactors           |
| F cffcheck                    | F getscales            |
| F checkhash                   | F gotodatatable        |
| F cmap                        | F normalizedaxis       |
| F colr                        | T normalizedaxisishash |
| F compact                     | F readvariationdata    |
| F cpal                        | F reportskippedtable   |
| F ebdt                        | F setvariabledata      |
| F eblc                        | F hhea                 |
| F ebsc                        | F hmtx                 |
| F expand                      | F hvar                 |
| F extend                      | F kern                 |
| F fvar                        | F loadfont             |
| F gdef                        | F loadshapes           |
| F getcomponents               | F loca                 |
| F getinfo                     | F math                 |
| F glyf                        | F maxp                 |
| F gpos                        | F mvar                 |
| T gposhandlers                | F name                 |
| F chainedcontext              | F os/2                 |
| F context                     | F pack                 |
| F cursive                     | F parsecharstrings     |
| F extension                   | F post                 |
| F marktobase                  | F registerextender     |
| F marktoligature              | F rehash               |
| F marktomark                  | F sbix                 |
| F pair                        | F stat                 |
| F single                      | T streamreader         |
| F gsub                        | F close                |
| T gsubhandlers                | F getposition          |
| F alternate                   | F getsize              |
| F chainedcontext              | F look                 |
| F context                     | F open                 |
| F extension                   | F read2dot14           |
| F ligature                    | F readbyte             |
| F multiple                    | F readbytes            |
| F reversechainedcontextsingle | F readbytetable        |
| F single                      | F readcardinal         |
| F gvar                        | F readcardinal1        |
| F head                        | F readcardinal2        |
| T helpers                     | F readcardinal2le      |
| F axistofactors               | F readcardinal3        |
| F cleanname                   | F readcardinal3le      |
| F getaxisscale                | F readcardinal4        |

|                     |                      |
|---------------------|----------------------|
| F readcardinal4le   | T statistics         |
| F readchar          | D usedfeatures       |
| F readfixed2        | F storepdfdata       |
| F readfixed4        | T svg                |
| F readinteger       | F filterglyph        |
| F readinteger1      | F topdf              |
| F readinteger2      | D svgcache           |
| F readinteger2le    | B svgenabled         |
| F readinteger3      | T tables             |
| F readinteger3le    | D baselines          |
| F readinteger4      | D features           |
| F readinteger4le    | D featuretypes       |
| F readsignedbyte    | D languages          |
| F readstring        | D scripts            |
| F readtag           | N version            |
| F setposition       | T pfb                |
| F size              | F loadvector         |
| F skip              | T tfm                |
| F skiplong          | F addtounicode       |
| F skipposition      | D features           |
| F skipshort         | N maxnestingdepth    |
| F writebyte         | N maxnestingsize     |
| F writecardinal2    | F reencode           |
| F writecardinal4    | F setfeatures        |
| F writestring       | N version            |
| F svg               | T vf                 |
| N tableversion      | T combinations       |
| F unifymissing      | F combine            |
| F unpack            | T combiner           |
| F vhea              | D commands           |
| F vmtx              | D helpers            |
| F vorg              | D math               |
| F vvar              | D predefined         |
| F woff2otf          | N version            |
| F registerpalette   | D whatever           |
| F registerplugin    | F hashfeatures       |
| F reorderlookups    | F hashinstance       |
| T sbix              | T hashmethods        |
| F topdf             | F normal             |
| D sbixcache         | F virtual            |
| B sbixenabled       | F initializefeatures |
| F scriptandlanguage | T keys               |
| F setdynamics       | T characters         |
| F setfeatures       | T descriptions       |

|                          |                       |          |
|--------------------------|-----------------------|----------|
| T parameters             | S name                |          |
| S ascender               | S noglyphnames        |          |
| S descender              | S nostackmath         |          |
| S designsize             | S psname              |          |
| T expansion              | S textitalics         |          |
| S auto                   | S virtualized         |          |
| S shrink                 | D loadedfonts         |          |
| S step                   | S namemode            |          |
| S stretch                | N noffontsloaded      |          |
| S extendfactor           | N nofsharedfonts      |          |
| S factor                 | N nofsharedhashes     |          |
| S hfactor                | N nofsharedvectors    |          |
| S mathsize               | N privateoffset       |          |
| T protrusion             | D privateslots        |          |
| S auto                   | F readanddefine       |          |
| S quad                   | F registerfeature     |          |
| S scaledpoints           | F resetfeature        |          |
| S scriptpercentage       | B resolvevirtualtoo   |          |
| S scriptscriptpercentage | F scale               |          |
| S size                   | F scaled              |          |
| S slantfactor            | F setfactor           |          |
| S slantperpoint          | F setfeature          |          |
| T spacing                | F setname             |          |
| S extra                  | B sharefonts          |          |
| S shrink                 | F trytosharefont      |          |
| S stretch                | N version             |          |
| S width                  | <b>current</b>        | function |
| S units                  | <b>currentid</b>      | function |
| S vfactor                | <b>definers</b>       | table    |
| S xheight                | F addlookup           |          |
| T properties             | F analyze             |          |
| S autoitalicamount       | F applypostprocessors |          |
| S cidinfo                | F checkedmode         |          |
| S embedding              | F checkedscript       |          |
| S encodingbytes          | F current             |          |
| S filename               | S defaultlookup       |          |
| S finalized              | F define              |          |
| S fontname               | F getspecification    |          |
| S format                 | F internal            |          |
| S fullname               | F loadfont            |          |
| S hasitalics             | F makespecification   |          |
| S hasmath                | T methods             |          |
| S mathitalics            | F install             |          |
| S mode                   | D variants            |          |

|                        |            |                         |       |
|------------------------|------------|-------------------------|-------|
| F read                 |            | T data                  |       |
| F register             |            | T dejavu-math           |       |
| F registered           |            | S author                |       |
| F registersplit        |            | S comment               |       |
| F resetnullfont        |            | S copyright             |       |
| F resolve              |            | B initialized           |       |
| T resolvers            |            | T mathematics           |       |
| F file                 |            | T alternates            |       |
| F name                 |            | T dotless               |       |
| F spec                 |            | S comment               |       |
| <b>definetypeface</b>  | function   | S feature               |       |
| <b>encodings</b>       | table      | N value                 |       |
| T agl                  |            | T kerns                 |       |
| D ctxcodes             |            | S name                  |       |
| D extras               |            | S version               |       |
| D names                |            | D designsizes           |       |
| D synonyms             |            | D filenames             |       |
| D unicodes             |            | F getcompositions       |       |
| D cache                |            | T list                  |       |
| F is_known             |            | F load                  |       |
| D known                |            | F prepare_features      |       |
| F load                 |            | F register              |       |
| F make_unicode_vector  |            | F registerpostprocessor |       |
| D math                 |            | F report                |       |
| N version              |            | T suffixes              |       |
| <b>enhanceid</b>       | function   | <b>handlers</b>         | table |
| <b>expansions</b>      | data table | <b>hashes</b>           | table |
| <b>formats</b>         | data table | D characters            |       |
| <b>getalternate</b>    | function   | D classes               |       |
| <b>getkern</b>         | function   | D csnames               |       |
| <b>getmultiple</b>     | function   | D descriptions          |       |
| <b>getsubstitution</b> | function   | D dynamics              |       |
| <b>getters</b>         | table      | D emwidths              |       |
| T alternate            |            | D exheights             |       |
| F opentype             |            | D extensibles           |       |
| T kern                 |            | D features              |       |
| F opentype             |            | D identifiers           |       |
| F type1                |            | D italics               |       |
| T multiple             |            | D lastmathids           |       |
| F opentype             |            | D marks                 |       |
| T substitution         |            | D modes                 |       |
| F opentype             |            | D originals             |       |
| <b>goodies</b>         | table      | D parameters            |       |
| D colorschemes         |            | T processes             |       |

- D properties
- D quads
- D resources
- T setdynamics
- T shapes
- D spaces
- D spacings
- T streams
- D unicodes
- D variants
- D xheights

**helpers** table

- F addextraprivate
- F addprivate
- F checkflags
- F checkmerge
- F checksteps
- F descriptiontoslot
- F dimenfactor
- F expandglyph
- F fontpatternhassize
- F getcoloredglyphs
- F getdigitwidth
- F getinstancespec
- F getparameters
- F getprivatecharornode
- F getprivatenode
- F getprivates
- F getprivateslot
- F hasprivate
- F indextoslot
- F name
- F nametoslot
- F setdigitwidth
- F splitfontpattern
- F tochar

**infofont** function

**iterators** table

- F characters
- F descriptions
- F glyphs

**loggers** table

- F add\_placeholders
- D category\_to\_placeholder

- F format
- F onetimemessage
- F register
- F reportdefinedfonts
- F reportusedfeatures

**mappings** table

- F addtounicode
- F fromunicode16
- F loadfile
- F loadline
- F makenameparser
- D overloads
- F reset
- F tounicode
- F tounicode16
- F tounicode16sequence

**metapost** table

- F boundingbox
- F boxtomp
- F draw
- F fill
- F maxbounds
- F output
- F paths
- F widthline
- F zeroline

**mp** table

- D cache
- B inline
- N version

**names** data table

**nulldata** data table

**protrusions** data table

**readers** table

- F afm
- F check\_lua
- F check\_tfm
- F lua
- F ofm
- F opentype
- F otf
- F pfb
- D sequence
- F tfm

|                           |          |                   |       |
|---------------------------|----------|-------------------|-------|
| F ttc                     |          | <b>specifiers</b> | table |
| F ttf                     |          | D contextmerged   |       |
| F woff                    |          | F contextnumber   |       |
| <b>reserveid</b>          | function | D contextnumbers  |       |
| <b>select</b>             | table    | D contextsetups   |       |
| D alternatives            |          | F contexttstring  |       |
| F bodyfont                |          | F definecontext   |       |
| D data                    |          | F mergecontext    |       |
| F default                 |          | F presetcontext   |       |
| D defaults                |          | F registercontext |       |
| F definefallbackfamily    |          | F showcontext     |       |
| F definefontfamily        |          | F splitcontext    |       |
| F definefontfamilypreset  |          | D synonyms        |       |
| D extras                  |          | D variants        |       |
| F fallback                |          | <b>symbols</b>    | table |
| D fallbacks               |          | T emoji           |       |
| F features                |          | F checked         |       |
| F filefallback            |          | F resolved        |       |
| F fontdata                |          | F uselibrary      |       |
| F fontfallback            |          | <b>tables</b>     | table |
| F fontsynonym             |          | D data            |       |
| F goodies                 |          | F savefont        |       |
| F mathfallback            |          | F saveoriginal    |       |
| D methods                 |          | <b>tracers</b>    | table |
| D presets                 |          | <b>treatments</b> | table |
| F registerfallback        |          | F applyfixes      |       |
| F registerfiles           |          | D data            |       |
| F registerfontalternative |          | S filename        |       |
| F registerfontfamily      |          | F ignoredfile     |       |
| F textfallback            |          | F report          |       |
| F typeface                |          | F trace           |       |
| F typescript              |          | <b>typefaces</b>  | table |
| F userdata                |          |                   |       |

# functions (context)

**dummy** function

# graphics (context)

**backgrounds** table

F fetchmultipar

F pair

F path

F point



## gzip (extra lua)

**close**    function  
**lines**    function  
**load**    function

**open**    function  
**save**    function  
**suffix** function

## img (basic tex)

|                       |          |                  |          |
|-----------------------|----------|------------------|----------|
| <b>boxes</b>          | function | <b>ofindex</b>   | function |
| <b>check</b>          | function | <b>package</b>   | function |
| <b>checksize</b>      | function | <b>print</b>     | function |
| <b>clone</b>          | function | <b>scan</b>      | function |
| <b>copy</b>           | function | <b>serialize</b> | function |
| <b>immediatewrite</b> | function | <b>tonode</b>    | function |
| <b>keys</b>           | function | <b>totable</b>   | function |
| <b>new</b>            | function | <b>types</b>     | function |
| <b>node</b>           | function | <b>write</b>     | function |

# interactions (context)

**attachments** data table

**fields** table

- F clone
- F define
- F defineset
- F insert

**general** table

- F getidentity
- F setupidentity

**help** table

- F collect
- F reference
- F register

**javascripts** table

- F addtopreamble
- F code
- D codes
- F flushpreambles

D functions

D preambles

F setpreamble

F storecode

F storepreamble

F usepreamblenow

F usescripts

**linkedList**s data table

**pages** table

F setpagetransition

F setupcanvas

**references** table

F setcloseddocument

F setclosepage

F setopendocument

F setopenpage

**renderings** data table

**soundclips** data table

# interfaces (context)

|                             |            |
|-----------------------------|------------|
| <b>addvalidkeys</b>         | function   |
| <b>cachedsetups</b>         | data table |
| <b>cachesetup</b>           | function   |
| <b>checkedspecification</b> | function   |
| <b>complete</b>             | data table |
| <b>constants</b>            | data table |
| <b>corenamespaces</b>       | data table |
| <b>currentinterface</b>     | string     |
| <b>currentresponse</b>      | string     |
| <b>definecommand</b>        | function   |
| <b>defined</b>              | function   |
| <b>doifelsemessage</b>      | function   |
| <b>elements</b>             | data table |
| <b>formats</b>              | data table |
| <b>getcheckedparameters</b> | function   |
| <b>getmessage</b>           | function   |
| <b>getnamespace</b>         | function   |
| <b>getsetupstring</b>       | function   |
| <b>hashedsetups</b>         | data table |
| <b>implement</b>            | function   |
| <b>interfacedcommand</b>    | function   |
| <b>interfaces</b>           | table      |
| <b>invalidkey</b>           | function   |
| <b>message</b>              | function   |
| <b>namespaces</b>           | table      |

F define

|                          |            |
|--------------------------|------------|
| F list                   |            |
| <b>registernamespace</b> | function   |
| <b>scanners</b>          | data table |
| <b>setconstant</b>       | function   |
| <b>setcount</b>          | function   |
| <b>setdimen</b>          | function   |
| <b>setelement</b>        | function   |
| <b>setformat</b>         | function   |
| <b>setmacro</b>          | function   |
| <b>setmessage</b>        | function   |
| <b>setmessages</b>       | function   |
| <b>settranslation</b>    | function   |
| <b>setupstrings</b>      | data table |
| <b>setuserinterface</b>  | function   |
| <b>setvalidkeys</b>      | function   |
| <b>setvariable</b>       | function   |
| <b>showmessage</b>       | function   |
| <b>storedscanners</b>    | data table |
| <b>strings</b>           | table      |
| <b>syntax</b>            | data table |
| <b>tolist</b>            | function   |
| <b>translations</b>      | data table |
| <b>usednamespaces</b>    | data table |
| <b>variables</b>         | data table |
| <b>writestatus</b>       | function   |

## io (basic lua)

|                      |                     |                      |                     |
|----------------------|---------------------|----------------------|---------------------|
| <b>ask</b>           | function            | <b>pathseparator</b> | string              |
| <b>bytes</b>         | function            | <b>popen</b>         | overloaded function |
| <b>characters</b>    | function            | <b>read</b>          | function            |
| <b>close</b>         | function            | <b>readall</b>       | function            |
| <b>copydata</b>      | function            | <b>readnumber</b>    | function            |
| <b>exists</b>        | function            | <b>readstring</b>    | function            |
| <b>fileseparator</b> | string              | <b>saved_lines</b>   | function            |
| <b>flush</b>         | function            | <b>savedata</b>      | function            |
| <b>input</b>         | overloaded function | <b>size</b>          | function            |
| <b>lines</b>         | overloaded function | <b>stderr</b>        | userdata            |
| <b>loadchunk</b>     | function            | <b>stdin</b>         | userdata            |
| <b>loaddata</b>      | function            | <b>stdout</b>        | userdata            |
| <b>loadlines</b>     | function            | <b>tmpfile</b>       | function            |
| <b>noflines</b>      | function            | <b>type</b>          | function            |
| <b>open</b>          | overloaded function | <b>write</b>         | function            |
| <b>output</b>        | overloaded function |                      |                     |

# job (context)

|                          |          |                  |       |
|--------------------------|----------|------------------|-------|
| <b>comment</b>           | function | F check          |       |
| <b>datasets</b>          | table    | D collected      |       |
| D collected              |          | F count          |       |
| F extend                 |          | F define         |       |
| F getdata                |          | F find           |       |
| F setdata                |          | F first          |       |
| D tobesaved              |          | F get            |       |
| <b>disablesave</b>       | function | F getcollected   |       |
| <b>embedded</b>          | table    | F getdata        |       |
| D collected              |          | F getfield       |       |
| D tobesaved              |          | F gettobesaved   |       |
| <b>fileobjreferences</b> | table    | F inlist         |       |
| D collected              |          | F last           |       |
| D tobesaved              |          | F list           |       |
| <b>files</b>             | table    | F save           |       |
| D collected              |          | F savetagged     |       |
| F context                |          | D tobesaved      |       |
| B forcerun               |          | <b>positions</b> | table |
| F run                    |          | F b_column       |       |
| D tobesaved              |          | F b_region       |       |
| <b>getrandomseed</b>     | function | F c              |       |
| <b>initialize</b>        | function | D collected      |       |
| <b>load</b>              | function | F column         |       |
| <b>loadother</b>         | function | F copy           |       |
| <b>objects</b>           | table    | F depth          |       |
| D collected              |          | F e_column       |       |
| F get                    |          | F e_region       |       |
| F number                 |          | F enhance        |       |
| F page                   |          | F extra          |       |
| F save                   |          | T free           |       |
| F set                    |          | F get            |       |
| D tobesaved              |          | F getreserved    |       |
| <b>pack</b>              | boolean  | F gettobesaved   |       |
| <b>packversion</b>       | number   | F hangafter      |       |
| <b>pagestates</b>        | table    | F hangindent     |       |
| D collected              |          | F height         |       |
| F extend                 |          | F hsize          |       |
| F realpage               |          | F leftskip       |       |
| F setstate               |          | F lowerleft      |       |
| D tobesaved              |          | F lowerright     |       |
| <b>passes</b>            | table    | F markregionbox  |       |

|                |                  |          |
|----------------|------------------|----------|
| F n            | F xy             |          |
| F onsamepage   | F y              |          |
| F overlapping  | <b>register</b>  | function |
| F p            | <b>save</b>      | function |
| T page         | <b>structure</b> | table    |
| F paragraph    | D collected      |          |
| F parindent    | T components     |          |
| F position     | T tobesaved      |          |
| F r            | T branches       |          |
| F region       | S name           |          |
| F replace      | S type           |          |
| F rightskip    | <b>variables</b> | table    |
| F set          | D checksums      |          |
| F setall       | D collected      |          |
| F setregionbox | F getchecksum    |          |
| D tobesaved    | F makechecksum   |          |
| F upperleft    | F restore        |          |
| F upperright   | F save           |          |
| S used         | F setchecksum    |          |
| F whd          | D tobesaved      |          |
| F width        | <b>version</b>   | number   |
| F x            |                  |          |

## lang (basic tex)

|                          |          |
|--------------------------|----------|
| <b>clean</b>             | function |
| <b>clear_hyphenation</b> | function |
| <b>clear_patterns</b>    | function |
| <b>exceptions</b>        | function |
| <b>gethjcode</b>         | function |
| <b>hyphenate</b>         | function |
| <b>hyphenation</b>       | function |
| <b>hyphenationmin</b>    | function |

|                         |          |
|-------------------------|----------|
| <b>id</b>               | function |
| <b>new</b>              | function |
| <b>patterns</b>         | function |
| <b>postexhyphenchar</b> | function |
| <b>posthyphenchar</b>   | function |
| <b>preexhyphenchar</b>  | function |
| <b>prehyphenchar</b>    | function |
| <b>sethjcode</b>        | function |



# languages (context)

|                               |            |                                 |            |
|-------------------------------|------------|---------------------------------|------------|
| <b>associate</b>              | function   | <b>F setfeatures</b>            |            |
| <b>associated</b>             | data table | <b>installed</b>                | function   |
| <b>association</b>            | function   | <b>labels</b>                   | table      |
| <b>counters</b>               | data table | <b>F define</b>                 |            |
| <b>current</b>                | function   | <b>F split</b>                  |            |
| <b>data</b>                   | data table | <b>loadable</b>                 | function   |
| <b>decimals</b>               | data table | <b>loadwords</b>                | function   |
| <b>define</b>                 | function   | <b>logger</b>                   | table      |
| <b>flatten</b>                | function   | <b>F report</b>                 |            |
| <b>frequencies</b>            | table      | <b>nofflatten</b>               | function   |
| <b>F averagecharwidth</b>     |            | <b>numbers</b>                  | data table |
| <b>F getdata</b>              |            | <b>postexhyphenchar</b>         | function   |
| <b>getdata</b>                | function   | <b>posthyphenchar</b>           | function   |
| <b>getnumber</b>              | function   | <b>preexhyphenchar</b>          | function   |
| <b>hjcounts</b>               | table      | <b>prehyphenchar</b>            | function   |
| <b>hyphenate</b>              | function   | <b>registered</b>               | data table |
| <b>hyphenators</b>            | table      | <b>replacements</b>             | table      |
| <b>T dictionaries</b>         |            | <b>F add</b>                    |            |
| <b>D featuresets</b>          |            | <b>F addlist</b>                |            |
| <b>F handler</b>              |            | <b>F handler</b>                |            |
| <b>T methods</b>              |            | <b>F set</b>                    |            |
| <b>F expanded</b>             |            | <b>serializediscretionary</b>   | function   |
| <b>B none</b>                 |            | <b>setexceptions</b>            | function   |
| <b>F original</b>             |            | <b>setsynonym</b>               | function   |
| <b>F tex</b>                  |            | <b>showdiscretionaries</b>      | function   |
| <b>F traditional</b>          |            | <b>unload</b>                   | function   |
| <b>F popmethod</b>            |            | <b>urls</b>                     | table      |
| <b>F pushmethod</b>           |            | <b>D characters</b>             |            |
| <b>F setmethod</b>            |            | <b>N lefthyphenmin</b>          |            |
| <b>F setup</b>                |            | <b>D mapping</b>                |            |
| <b>F showhyphenationtrace</b> |            | <b>B packslashes</b>            |            |
| <b>T traditional</b>          |            | <b>N righthyphenmin</b>         |            |
| <b>F definefeatures</b>       |            | <b>F setcharacters</b>          |            |
| <b>F gettrace</b>             |            | <b>version</b>                  | number     |
| <b>F hyphenate</b>            |            | <b>visualizediscretionaries</b> | function   |
| <b>F injecthyphens</b>        |            | <b>words</b>                    | table      |
| <b>F installmethod</b>        |            | <b>F check</b>                  |            |
| <b>F lasttrace</b>            |            | <b>T data</b>                   |            |
| <b>F loadpatterns</b>         |            | <b>F disable</b>                |            |
| <b>F registerexception</b>    |            | <b>F enable</b>                 |            |
| <b>F registerpattern</b>      |            | <b>T enablers</b>               |            |

B enables

T methods

F found

N threshold

F load

# layouts (context)

|               |              |                         |
|---------------|--------------|-------------------------|
| <b>status</b> | table        | F leftorrightpageaction |
|               | F isleftpage |                         |

## lfs (extra lua)

|                   |                     |                          |                     |
|-------------------|---------------------|--------------------------|---------------------|
| <b>attributes</b> | overloaded function | <b>mkdir</b>             | overloaded function |
| <b>chdir</b>      | overloaded function | <b>mkdirs</b>            | function            |
| <b>currentdir</b> | function            | <b>readlink</b>          | overloaded function |
| <b>dir</b>        | overloaded function | <b>rmdir</b>             | overloaded function |
| <b>isdir</b>      | overloaded function | <b>setmode</b>           | overloaded function |
| <b>isfile</b>     | overloaded function | <b>shortname</b>         | overloaded function |
| <b>isfound</b>    | function            | <b>symlinkattributes</b> | overloaded function |
| <b>link</b>       | overloaded function | <b>touch</b>             | overloaded function |
| <b>lock</b>       | function            | <b>unlock</b>            | function            |
| <b>lock_dir</b>   | overloaded function |                          |                     |

## libraries (context)

**basiclua** data table

**basictex** data table

**builtin** data table

**extralua** data table

**extratex** data table

**functions** data table

**globals** data table

# lmx (context)

|                          |          |
|--------------------------|----------|
| <b>color</b>             | function |
| <b>convert</b>           | function |
| <b>convertfile</b>       | function |
| <b>convertstring</b>     | function |
| <b>einject</b>           | function |
| <b>eprint</b>            | function |
| <b>escape</b>            | function |
| <b>finalized</b>         | function |
| <b>finject</b>           | function |
| <b>fprint</b>            | function |
| <b>get</b>               | function |
| <b>getvariables</b>      | function |
| <b>htmfile</b>           | function |
| <b>html</b>              | table    |
| F a                      |          |
| F td                     |          |
| F th                     |          |
| <b>include</b>           | function |
| <b>inherited</b>         | table    |
| S color-background-four  |          |
| S color-background-one   |          |
| S color-background-three |          |
| S color-background-two   |          |
| S title                  |          |
| <b>initialize</b>        | function |
| <b>inject</b>            | function |
| <b>lmxfile</b>           | function |

|                           |          |
|---------------------------|----------|
| <b>loadedfile</b>         | function |
| <b>make</b>               | function |
| <b>new</b>                | function |
| <b>overloaderror</b>      | function |
| <b>popupfile</b>          | function |
| <b>print</b>              | function |
| <b>pv</b>                 | function |
| <b>report</b>             | function |
| <b>reset</b>              | function |
| <b>result</b>             | function |
| <b>set</b>                | function |
| <b>show</b>               | function |
| <b>showdebuginfo</b>      | function |
| <b>showerror</b>          | function |
| <b>stripcss</b>           | function |
| <b>tv</b>                 | function |
| <b>type</b>               | function |
| <b>urlescape</b>          | function |
| <b>variable</b>           | function |
| <b>variables</b>          | table    |
| S color-background-blue   |          |
| S color-background-body   |          |
| S color-background-green  |          |
| S color-background-main   |          |
| S color-background-purple |          |
| S color-background-yellow |          |
| S title-default           |          |

# logs (context)

|                             |          |                          |          |
|-----------------------------|----------|--------------------------|----------|
| <b>application</b>          | function | <b>setformats</b>        | function |
| <b>categories</b>           | function | <b>setformatters</b>     | function |
| <b>direct</b>               | function | <b>setlogfile</b>        | function |
| <b>disable</b>              | function | <b>setmessenger</b>      | function |
| <b>enable</b>               | function | <b>setprocessor</b>      | function |
| <b>exporters</b>            | table    | <b>setprogram</b>        | function |
| <b>extendbanner</b>         | function | <b>settarget</b>         | function |
| <b>finalactions</b>         | function | <b>settimedlog</b>       | function |
| <b>flush</b>                | function | <b>settranslations</b>   | function |
| <b>help</b>                 | function | <b>show</b>              | function |
| <b>loggingerrors</b>        | function | <b>show_close</b>        | function |
| <b>messenger</b>            | function | <b>show_load</b>         | function |
| <b>new</b>                  | function | <b>show_open</b>         | function |
| <b>newline</b>              | function | <b>simple</b>            | function |
| <b>poptarget</b>            | function | <b>simpleline</b>        | function |
| <b>pushtarget</b>           | function | <b>simplelines</b>       | function |
| <b>registerfinalactions</b> | function | <b>start_page_number</b> | function |
| <b>report</b>               | function | <b>starterrorlogging</b> | function |
| <b>reportbanner</b>         | function | <b>startfilelogging</b>  | function |
| <b>reporter</b>             | function | <b>status</b>            | function |
| <b>reporters</b>            | table    | <b>stop_page_number</b>  | function |
| F banner                    |          | <b>stoperrorlogging</b>  | function |
| F export                    |          | <b>stopfilelogging</b>   | function |
| F help                      |          | <b>subdirect</b>         | function |
| F info                      |          | <b>subreport</b>         | function |
| F lines                     |          | <b>system</b>            | function |
| F version                   |          | <b>texerrormessage</b>   | function |
| <b>reportline</b>           | function | <b>writer</b>            | function |
| <b>reportlines</b>          | function |                          |          |

# lpdf (context)

|                                 |            |                                  |            |
|---------------------------------|------------|----------------------------------|------------|
| <b>action</b>                   | function   | <b>escaped</b>                   | function   |
| <b>adddocumentcolorspace</b>    | function   | <b>finalizeddocument</b>         | function   |
| <b>adddocumenttextgstate</b>    | function   | <b>finalizepage</b>              | function   |
| <b>adddocumentpattern</b>       | function   | <b>finishtransparencycode</b>    | function   |
| <b>adddocumentshade</b>         | function   | <b>flushobject</b>               | function   |
| <b>addtocatalog</b>             | function   | <b>flushstreamfileobject</b>     | function   |
| <b>addtoinfo</b>                | function   | <b>flushstreamobject</b>         | function   |
| <b>addtonames</b>               | function   | <b>formats</b>                   | data table |
| <b>addtopageattributes</b>      | function   | <b>frompdfdoc</b>                | function   |
| <b>addtopageresources</b>       | function   | <b>fromsixteen</b>               | function   |
| <b>addtopagesattributes</b>     | function   | <b>getcompression</b>            | function   |
| <b>addxmpinfo</b>               | function   | <b>gethpos</b>                   | function   |
| <b>annotationspecification</b>  | function   | <b>getmatrix</b>                 | function   |
| <b>array</b>                    | function   | <b>getpos</b>                    | function   |
| <b>boolean</b>                  | function   | <b>getversion</b>                | function   |
| <b>border</b>                   | function   | <b>getvpos</b>                   | function   |
| <b>checkedkey</b>               | function   | <b>graycode</b>                  | function   |
| <b>checkedvalue</b>             | function   | <b>hasmatrix</b>                 | function   |
| <b>circularshade</b>            | function   | <b>id</b>                        | function   |
| <b>cmykcode</b>                 | function   | <b>injectxmpinfo</b>             | function   |
| <b>collectedresources</b>       | function   | <b>insertxmpinfo</b>             | function   |
| <b>color</b>                    | function   | <b>layerreference</b>            | function   |
| <b>colorspace</b>               | function   | <b>limited</b>                   | function   |
| <b>colorspaceconstants</b>      | data table | <b>linearshade</b>               | function   |
| <b>colorspec</b>                | function   | <b>majorversion</b>              | function   |
| <b>colorvalue</b>               | function   | <b>minorversion</b>              | function   |
| <b>colorvalues</b>              | function   | <b>nametree</b>                  | function   |
| <b>compresslevel</b>            | function   | <b>null</b>                      | function   |
| <b>constant</b>                 | function   | <b>number</b>                    | function   |
| <b>delayedobject</b>            | function   | <b>objectcompresslevel</b>       | function   |
| <b>destinationspecification</b> | function   | <b>pagereference</b>             | function   |
| <b>dictionary</b>               | function   | <b>patternstream</b>             | function   |
| <b>docstring</b>                | function   | <b>pdfcolor</b>                  | function   |
| <b>epdf</b>                     | table      | <b>pdftimestamp</b>              | function   |
| F contenttotext                 |            | <b>permitdetail</b>              | function   |
| F expand                        |            | <b>protectresources</b>          | boolean    |
| F expanded                      |            | <b>rectangle</b>                 | function   |
| F getpagecontent                |            | <b>reference</b>                 | function   |
| F getstructure                  |            | <b>registerannotation</b>        | function   |
| F load                          |            | <b>registerdestination</b>       | function   |
| F unload                        |            | <b>registerdocumentfinalizer</b> | function   |



|                              |          |                           |          |
|------------------------------|----------|---------------------------|----------|
| <b>registerpagefinalizer</b> | function | <b>string</b>             | function |
| <b>registerpattern</b>       | function | <b>timestamp</b>          | function |
| <b>reserveobject</b>         | function | <b>toeight</b>            | function |
| <b>rgbcode</b>               | function | <b>topdfdoc</b>           | function |
| <b>rotationcm</b>            | function | <b>tosixteen</b>          | function |
| <b>setcompression</b>        | function | <b>transform</b>          | function |
| <b>setdates</b>              | function | <b>transparency</b>       | function |
| <b>settime</b>               | function | <b>transparencycode</b>   | function |
| <b>settrailerid</b>          | function | <b>transparencygroups</b> | table    |
| <b>setversion</b>            | function | <b>B none</b>             |          |
| <b>shareobject</b>           | function | <b>transparencyvalue</b>  | function |
| <b>shareobjectreference</b>  | function | <b>unicode</b>            | function |
| <b>spotcode</b>              | function | <b>verbose</b>            | function |
| <b>stream</b>                | function |                           |          |

## lpeg (basic lua)

|                     |          |                              |            |
|---------------------|----------|------------------------------|------------|
| <b>B</b>            | function | <b>firstofsplit</b>          | function   |
| <b>C</b>            | function | <b>frontstripper</b>         | function   |
| <b>Carg</b>         | function | <b>instringchecker</b>       | function   |
| <b>Cb</b>           | function | <b>is_lpeg</b>               | function   |
| <b>Cc</b>           | function | <b>keeper</b>                | function   |
| <b>Cf</b>           | function | <b>locale</b>                | function   |
| <b>Cg</b>           | function | <b>match</b>                 | function   |
| <b>Cmt</b>          | function | <b>oneof</b>                 | function   |
| <b>Cp</b>           | function | <b>patterns</b>              | data table |
| <b>Cs</b>           | function | <b>pcode</b>                 | function   |
| <b>Ct</b>           | function | <b>print</b>                 | function   |
| <b>P</b>            | function | <b>ptree</b>                 | function   |
| <b>R</b>            | function | <b>replacer</b>              | function   |
| <b>S</b>            | function | <b>secondofsplit</b>         | function   |
| <b>UP</b>           | function | <b>setmaxstack</b>           | function   |
| <b>UR</b>           | function | <b>setutfcasers</b>          | function   |
| <b>US</b>           | function | <b>split</b>                 | function   |
| <b>V</b>            | function | <b>splitat</b>               | function   |
| <b>afterprefix</b>  | function | <b>splitter</b>              | function   |
| <b>anywhere</b>     | function | <b>stripper</b>              | function   |
| <b>append</b>       | function | <b>times</b>                 | function   |
| <b>balancer</b>     | function | <b>tsplitat</b>              | function   |
| <b>beforesuffix</b> | function | <b>tsplitter</b>             | function   |
| <b>checkedsplit</b> | function | <b>type</b>                  | function   |
| <b>counter</b>      | function | <b>utfchartabletopattern</b> | function   |
| <b>endstripper</b>  | function | <b>version</b>               | function   |
| <b>finder</b>       | function |                              |            |

# ltn12 (extra lua)

**BLOCKSIZE**    number

**filter**        table

    F chain

    F cycle

**pump**          table

    F all

    F step

**sink**           table

    F chain

    F error

    F file

    F null

    F simplify

    F table

**source**        table

    F cat

    F chain

    F empty

    F error

    F file

    F rewind

    F simplify

    F string

# lua (basic tex)

|                            |            |                          |            |
|----------------------------|------------|--------------------------|------------|
| <b>bytecode</b>            | table      | F reset                  |            |
| <b>bytedata</b>            | data table | F resolvestring          |            |
| <b>bytedone</b>            | table      | F resolving              |            |
| B page-cst                 |            | <b>mask</b>              | string     |
| <b>collectgarbage</b>      | function   | <b>messages</b>          | data table |
| <b>delay</b>               | function   | <b>name</b>              | table      |
| <b>finalize</b>            | function   | <b>newtable</b>          | function   |
| <b>firstbytecode</b>       | number     | <b>numbers</b>           | data table |
| <b>flush</b>               | function   | <b>registercode</b>      | function   |
| <b>flushdelayed</b>        | function   | <b>registeredcodes</b>   | function   |
| <b>get_functions_table</b> | function   | <b>registerfinalizer</b> | function   |
| <b>getbytecode</b>         | function   | <b>registername</b>      | function   |
| <b>getluaname</b>          | function   | <b>setbytecode</b>       | function   |
| <b>lastbytecode</b>        | number     | <b>setluaname</b>        | function   |
| <b>macros</b>              | table      | <b>startupfile</b>       | string     |
| B enabled                  |            | <b>version</b>           | string     |

# luatex (context)

|                             |          |                    |
|-----------------------------|----------|--------------------|
| <b>cleanuptempfiles</b>     | function | F enable           |
| <b>currentfile</b>          | function | F finish           |
| <b>registerdumpactions</b>  | function | F pause            |
| <b>registerpageactions</b>  | function | F registerdisabler |
| <b>registerstartactions</b> | function | F registerenabler  |
| <b>registerstopactions</b>  | function | F resetfilename    |
| <b>registertempfile</b>     | function | F resume           |
| <b>starttime</b>            | number   | F setfilename      |
| <b>synctex</b>              | table    | F setup            |
| F blockfilename             |          | F start            |
| F collect                   |          | F stop             |
| F disable                   |          | F wrapup           |

# lxml (context)

|                        |            |                       |          |
|------------------------|------------|-----------------------|----------|
| <b>addindex</b>        | function   | <b>flush</b>          | function |
| <b>all</b>             | function   | <b>flushlinewise</b>  | function |
| <b>applyfunction</b>   | function   | <b>flushsetups</b>    | function |
| <b>applyselectors</b>  | function   | <b>flushspacewise</b> | function |
| <b>att</b>             | function   | <b>get_id</b>         | function |
| <b>attribute</b>       | function   | <b>getid</b>          | function |
| <b>badinclusions</b>   | function   | <b>getindex</b>       | function |
| <b>chainattribute</b>  | function   | <b>id</b>             | function |
| <b>checkindex</b>      | function   | <b>idsplitter</b>     | userdata |
| <b>collected</b>       | function   | <b>include</b>        | function |
| <b>command</b>         | function   | <b>inclusion</b>      | function |
| <b>concat</b>          | function   | <b>inclusions</b>     | function |
| <b>concatrange</b>     | function   | <b>index</b>          | function |
| <b>content</b>         | function   | <b>inlineverbatim</b> | function |
| <b>context</b>         | function   | <b>installsetup</b>   | function |
| <b>convert</b>         | function   | <b>last</b>           | function |
| <b>count</b>           | function   | <b>lastatt</b>        | function |
| <b>delete</b>          | function   | <b>lastmatch</b>      | function |
| <b>direct</b>          | function   | <b>load</b>           | function |
| <b>directives</b>      | table      | <b>loadbuffer</b>     | function |
| F after                |            | <b>loaddata</b>       | function |
| F before               |            | <b>loaded</b>         | table    |
| F handle               |            | <b>main</b>           | function |
| F load                 |            | <b>match</b>          | function |
| F setup                |            | <b>name</b>           | function |
| <b>displayverbatim</b> | function   | <b>namespace</b>      | function |
| <b>doif</b>            | function   | <b>nonspace</b>       | function |
| <b>doifelse</b>        | function   | <b>path</b>           | function |
| <b>doifelseempty</b>   | function   | <b>popmatch</b>       | function |
| <b>doifelsetext</b>    | function   | <b>pos</b>            | function |
| <b>doifempty</b>       | function   | <b>position</b>       | function |
| <b>doifnot</b>         | function   | <b>pure</b>           | function |
| <b>doifnotempty</b>    | function   | <b>pushmatch</b>      | function |
| <b>doifnottext</b>     | function   | <b>raw</b>            | function |
| <b>doiftext</b>        | function   | <b>rawroot</b>        | function |
| <b>element</b>         | function   | <b>rawtex</b>         | function |
| <b>elements</b>        | function   | <b>refatt</b>         | function |
| <b>entities</b>        | data table | <b>register</b>       | function |
| <b>filter</b>          | function   | <b>registerentity</b> | function |
| <b>filterlist</b>      | function   | <b>removesetup</b>    | function |
| <b>first</b>           | function   | <b>resetcdata</b>     | function |

|                         |          |
|-------------------------|----------|
| <b>resetsetup</b>       | function |
| <b>resolvedentity</b>   | function |
| <b>root</b>             | function |
| <b>save</b>             | function |
| <b>serialize</b>        | function |
| <b>setaction</b>        | function |
| <b>setcdata</b>         | function |
| <b>setcommandtonone</b> | function |
| <b>setcommandtotext</b> | function |
| <b>setsetup</b>         | function |
| <b>snippet</b>          | function |
| <b>sorters</b>          | table    |
| F add                   |          |
| F compare               |          |
| F flush                 |          |
| F reset                 |          |
| F show                  |          |
| F sort                  |          |

|                      |            |
|----------------------|------------|
| <b>splitid</b>       | function   |
| <b>startraw</b>      | function   |
| <b>startunesaped</b> | function   |
| <b>stopraw</b>       | function   |
| <b>stopunesaped</b>  | function   |
| <b>store</b>         | function   |
| <b>strip</b>         | function   |
| <b>stripped</b>      | function   |
| <b>tag</b>           | function   |
| <b>text</b>          | function   |
| <b>tobuffer</b>      | function   |
| <b>tofile</b>        | function   |
| <b>toparameters</b>  | function   |
| <b>toverbatim</b>    | function   |
| <b>verbatim</b>      | function   |
| <b>withindex</b>     | function   |
| <b>xmltexhandler</b> | data table |

## math (basic lua)

|                    |          |                       |                     |
|--------------------|----------|-----------------------|---------------------|
| <b>abs</b>         | function | <b>maxinteger</b>     | number              |
| <b>acos</b>        | function | <b>min</b>            | function            |
| <b>asin</b>        | function | <b>mininteger</b>     | number              |
| <b>atan</b>        | function | <b>mod</b>            | function            |
| <b>atan2</b>       | function | <b>modf</b>           | function            |
| <b>ceil</b>        | function | <b>odd</b>            | function            |
| <b>ceiling</b>     | function | <b>pi</b>             | number              |
| <b>cos</b>         | function | <b>pow</b>            | function            |
| <b>cosd</b>        | function | <b>rad</b>            | function            |
| <b>cosh</b>        | function | <b>random</b>         | overloaded function |
| <b>deg</b>         | function | <b>randomseed</b>     | function            |
| <b>div</b>         | function | <b>round</b>          | function            |
| <b>even</b>        | function | <b>setrandomseedi</b> | function            |
| <b>exp</b>         | function | <b>sin</b>            | function            |
| <b>floor</b>       | function | <b>sind</b>           | function            |
| <b>fmod</b>        | function | <b>sinh</b>           | function            |
| <b>frexp</b>       | function | <b>sqrt</b>           | function            |
| <b>huge</b>        | number   | <b>tan</b>            | function            |
| <b>initialseed</b> | number   | <b>tand</b>           | function            |
| <b>ldexp</b>       | function | <b>tanh</b>           | function            |
| <b>log</b>         | function | <b>tointeger</b>      | function            |
| <b>log10</b>       | function | <b>type</b>           | function            |
| <b>max</b>         | function | <b>ult</b>            | function            |



# mathematics (context)

|                               |            |                               |            |
|-------------------------------|------------|-------------------------------|------------|
| <b>addfallbacks</b>           | function   | <b>mapremap</b>               | data table |
| <b>alphabets</b>              | data table | <b>overloadadditions</b>      | function   |
| <b>alternatives</b>           | data table | <b>overloadparameters</b>     | function   |
| <b>big</b>                    | function   | <b>privatebase</b>            | number     |
| <b>boldmap</b>                | data table | <b>registerdomain</b>         | function   |
| <b>categories</b>             | table      | <b>registerfallbackid</b>     | function   |
| D functions                   |            | <b>remapalphabets</b>         | function   |
| <b>charactersets</b>          | data table | <b>renderings</b>             | table      |
| <b>checkaccentbaseheight</b>  | function   | D mappings                    |            |
| <b>checkprivateparameters</b> | function   | D numbers                     |            |
| <b>classes</b>                | data table | D sets                        |            |
| <b>codes</b>                  | data table | <b>renderset</b>              | function   |
| <b>define</b>                 | function   | <b>resetattributes</b>        | function   |
| <b>dimensions</b>             | function   | <b>resetitalics</b>           | function   |
| <b>domains</b>                | table      | <b>resolvefallbacks</b>       | function   |
| <b>extensiblecode</b>         | function   | <b>scaleparameters</b>        | function   |
| <b>extensibles</b>            | data table | <b>setdomain</b>              | function   |
| <b>extrabase</b>              | number     | <b>setitalics</b>             | function   |
| <b>extras</b>                 | table      | <b>setridofprime</b>          | function   |
| F add                         |            | <b>sets</b>                   | data table |
| F copy                        |            | <b>styles</b>                 | data table |
| <b>fallbacks</b>              | table      | <b>syncboth</b>               | function   |
| F apply                       |            | <b>syncname</b>               | function   |
| F install                     |            | <b>syncstyle</b>              | function   |
| <b>fallbackstyleattr</b>      | function   | <b>toname</b>                 | function   |
| <b>families</b>               | data table | <b>tostyle</b>                | function   |
| <b>finishfallbacks</b>        | function   | <b>tweakaftercopyingfont</b>  | function   |
| <b>gaps</b>                   | data table | <b>tweakbeforecopyingfont</b> | function   |
| <b>getboth</b>                | function   | <b>tweaks</b>                 | table      |
| <b>getdomain</b>              | function   | <b>utfmathaccent</b>          | function   |
| <b>getitalics</b>             | function   | <b>utfmathclass</b>           | function   |
| <b>getridofprime</b>          | function   | <b>utfmathcommand</b>         | function   |
| <b>getstyle</b>               | function   | <b>utfmathfiller</b>          | function   |
| <b>horizontalcode</b>         | function   | <b>utfmathstretch</b>         | function   |
| <b>initializeparameters</b>   | function   | <b>virtualize</b>             | function   |
| <b>makefont</b>               | function   | <b>virtualized</b>            | data table |

## md5 (extra lua)

|                |          |
|----------------|----------|
| <b>HEX</b>     | function |
| <b>crypt</b>   | function |
| <b>dec</b>     | function |
| <b>decrypt</b> | function |
| <b>exor</b>    | function |

|                |                     |
|----------------|---------------------|
| <b>hex</b>     | function            |
| <b>sum</b>     | function            |
| <b>sumHEXA</b> | overloaded function |
| <b>sumhexa</b> | overloaded function |

# metapost (context)

|                         |            |                               |          |
|-------------------------|------------|-------------------------------|----------|
| <b>analyzeplugins</b>   | function   | <b>getstatistics</b>          | function |
| <b>checkformat</b>      | function   | <b>gettext</b>                | function |
| <b>checktexts</b>       | function   | <b>graphic</b>                | function |
| <b>collapse</b>         | boolean    | <b>graphic_base_pass</b>      | function |
| <b>colorinitializer</b> | function   | <b>initializescriptrunner</b> | function |
| <b>comment</b>          | function   | <b>instance</b>               | function |
| <b>convert</b>          | function   | <b>intermediate</b>           | table    |
| <b>defaultformat</b>    | string     | T actions                     |          |
| <b>defaultinstance</b>  | string     | F makempy                     |          |
| <b>defaultmethod</b>    | string     | <b>lastlog</b>                | string   |
| <b>directrun</b>        | function   | <b>load</b>                   | function |
| <b>escaped</b>          | function   | <b>makempy</b>                | table    |
| <b>exectime</b>         | table      | N nofconverted                |          |
| <b>extensiondata</b>    | data table | F processgraphics             |          |
| <b>filterclippath</b>   | function   | F registerfile                |          |
| <b>flush</b>            | function   | <b>maketext</b>               | function |
| <b>flushers</b>         | table      | <b>metafun</b>                | table    |
| T pdf                   |            | F interpolate                 |          |
| F comment               |            | F topath                      |          |
| F flushfigure           |            | <b>method</b>                 | number   |
| F startfigure           |            | <b>mptopdf</b>                | table    |
| F stopfigure            |            | F convertmpstopdf             |          |
| F textfigure            |            | N nofconverted                |          |
| <b>flushliteral</b>     | function   | <b>n</b>                      | number   |
| <b>flushnormalpath</b>  | function   | <b>nvformat</b>               | function |
| <b>flushreset</b>       | function   | <b>optimize</b>               | boolean  |
| <b>fonts</b>            | table      | <b>parse</b>                  | function |
| F define                |            | <b>pdfliterals</b>            | function |
| T flusher               |            | <b>pluginactions</b>          | function |
| F flushfigure           |            | <b>popvariable</b>            | function |
| F startfigure           |            | <b>popvariables</b>           | function |
| F stopfigure            |            | <b>process</b>                | function |
| N instances             |            | <b>processplugins</b>         | function |
| F process               |            | <b>processspecial</b>         | function |
| <b>format</b>           | function   | <b>properties</b>             | table    |
| <b>format_number</b>    | function   | <b>pushvariable</b>           | function |
| <b>format_string</b>    | function   | <b>pushvariables</b>          | function |
| <b>formatnumber</b>     | function   | <b>quickanddirty</b>          | function |
| <b>getclippath</b>      | function   | <b>reducetogray</b>           | boolean  |
| <b>getextensions</b>    | function   | <b>reporterror</b>            | function |
| <b>getjobdata</b>       | function   | <b>reset</b>                  | function |

|                      |          |                      |          |
|----------------------|----------|----------------------|----------|
| <b>resetlastlog</b>  | function | F get                |          |
| <b>resetplugins</b>  | function | F reset              |          |
| <b>runscript</b>     | function | F set                |          |
| <b>scripterror</b>   | function | F setfrombuffer      |          |
| <b>setextensions</b> | function | <b>texerrors</b>     | boolean  |
| <b>setoutercolor</b> | function | <b>texexp</b>        | function |
| <b>settext</b>       | function | <b>texttextsdata</b> | function |
| <b>setvariable</b>   | function | <b>theclippath</b>   | function |
| <b>showlog</b>       | boolean  | <b>tographic</b>     | function |
| <b>simple</b>        | function | <b>totable</b>       | function |
| <b>startgraphic</b>  | function | <b>unload</b>        | function |
| <b>stopgraphic</b>   | function | <b>untagvariable</b> | function |
| <b>svformat</b>      | function | <b>variables</b>     | table    |
| <b>tex</b>           | table    |                      |          |

## mime (extra lua)

**b64** function

**decode** function

**decodet** table

F base64

F quoted-printable

**dot** function

**encode** function

**encodet** table

F base64

F quoted-printable

**eol** function

**normalize** function

**qp** function

**qpwrp** function

**stuff** function

**unb64** function

**unqp** function

**wrap** function

**wrapt** table

F base64

F default

F quoted-printable

F text

**wrp** function

## mp (context)

|                             |          |                            |          |
|-----------------------------|----------|----------------------------|----------|
| <b>BackSpace</b>            | function | <b>OuterMarginWidth</b>    | function |
| <b>BaselineSkip</b>         | function | <b>OverlayDepth</b>        | function |
| <b>BodyFontSize</b>         | function | <b>OverlayHeight</b>       | function |
| <b>BottomDistance</b>       | function | <b>OverlayLineWidth</b>    | function |
| <b>BottomHeight</b>         | function | <b>OverlayOffset</b>       | function |
| <b>BottomSpace</b>          | function | <b>OverlayWidth</b>        | function |
| <b>CurrentColumn</b>        | function | <b>PageDepth</b>           | function |
| <b>CurrentHeight</b>        | function | <b>PageFraction</b>        | function |
| <b>CurrentWidth</b>         | function | <b>PageNumber</b>          | function |
| <b>CutSpace</b>             | function | <b>PageOffset</b>          | function |
| <b>EmWidth</b>              | function | <b>PaperBleed</b>          | function |
| <b>ExHeight</b>             | function | <b>PaperHeight</b>         | function |
| <b>FooterDistance</b>       | function | <b>PaperWidth</b>          | function |
| <b>FooterHeight</b>         | function | <b>PrintPaperHeight</b>    | function |
| <b>HSize</b>                | function | <b>PrintPaperWidth</b>     | function |
| <b>HeaderDistance</b>       | function | <b>RealPageNumber</b>      | function |
| <b>HeaderHeight</b>         | function | <b>RightEdgeDistance</b>   | function |
| <b>InPageBody</b>           | function | <b>RightEdgeWidth</b>      | function |
| <b>InnerEdgeDistance</b>    | function | <b>RightMarginDistance</b> | function |
| <b>InnerEdgeWidth</b>       | function | <b>RightMarginWidth</b>    | function |
| <b>InnerMarginDistance</b>  | function | <b>SpineWidth</b>          | function |
| <b>InnerMarginWidth</b>     | function | <b>StrutDepth</b>          | function |
| <b>LastPageNumber</b>       | function | <b>StrutHeight</b>         | function |
| <b>LayoutColumnDistance</b> | function | <b>TextHeight</b>          | function |
| <b>LayoutColumnWidth</b>    | function | <b>TextWidth</b>           | function |
| <b>LayoutColumns</b>        | function | <b>TopDistance</b>         | function |
| <b>LeftEdgeDistance</b>     | function | <b>TopHeight</b>           | function |
| <b>LeftEdgeWidth</b>        | function | <b>TopSkip</b>             | function |
| <b>LeftMarginDistance</b>   | function | <b>TopSpace</b>            | function |
| <b>LeftMarginWidth</b>      | function | <b>VSize</b>               | function |
| <b>LineHeight</b>           | function | <b>_f_</b>                 | function |
| <b>MakeupHeight</b>         | function | <b>_get_count_</b>         | function |
| <b>MakeupWidth</b>          | function | <b>_get_dimen_</b>         | function |
| <b>NOfColumns</b>           | function | <b>_get_toks_</b>          | function |
| <b>NOfPages</b>             | function | <b>_set_count_</b>         | function |
| <b>NamedColor</b>           | function | <b>_set_dimen_</b>         | function |
| <b>OnOddPage</b>            | function | <b>_set_toks_</b>          | function |
| <b>OnRightPage</b>          | function | <b>boolean</b>             | function |
| <b>OuterEdgeDistance</b>    | function | <b>dataset</b>             | function |
| <b>OuterEdgeWidth</b>       | function | <b>datasets</b>            | table    |
| <b>OuterMarginDistance</b>  | function |                            |          |

F load

|                           |          |                          |          |
|---------------------------|----------|--------------------------|----------|
| <b>defaultcolormodel</b>  | function | <b>positioncurve</b>     | function |
| <b>dimension</b>          | function | <b>positionpage</b>      | function |
| <b>disposehash</b>        | function | <b>positionpath</b>      | function |
| <b>disposestore</b>       | function | <b>positionpxy</b>       | function |
| <b>finish_saving_data</b> | function | <b>positionregion</b>    | function |
| <b>format</b>             | function | <b>positionwhd</b>       | function |
| <b>formatted</b>          | function | <b>positionxy</b>        | function |
| <b>fprint</b>             | function | <b>prefix</b>            | function |
| <b>fromstore</b>          | function | <b>print</b>             | function |
| <b>get</b>                | table    | <b>processingmode</b>    | function |
| F boolean                 |          | <b>quadruple</b>         | function |
| F number                  |          | <b>quoted</b>            | function |
| F numeric                 |          | <b>report</b>            | function |
| F string                  |          | <b>save_data</b>         | function |
| <b>get_outline_text</b>   | function | <b>setcount</b>          | function |
| <b>getcount</b>           | function | <b>setdimen</b>          | function |
| <b>getdimen</b>           | function | <b>settoks</b>           | function |
| <b>gettoks</b>            | function | <b>size</b>              | function |
| <b>graphformat</b>        | function | <b>start_saving_data</b> | function |
| <b>inhash</b>             | function | <b>stop_saving_data</b>  | function |
| <b>integer</b>            | function | <b>systemmode</b>        | function |
| <b>isarray</b>            | function | <b>tb_dimensions</b>     | function |
| <b>mode</b>               | function | <b>texstr</b>            | function |
| <b>n</b>                  | function | <b>texvar</b>            | function |
| <b>newhash</b>            | function | <b>tohash</b>            | function |
| <b>newstore</b>           | function | <b>tostore</b>           | function |
| <b>numeric</b>            | function | <b>triplet</b>           | function |
| <b>pair</b>               | function | <b>tt_dimensions</b>     | function |
| <b>path</b>               | function | <b>tt_initialize</b>     | function |
| <b>positionanchor</b>     | function | <b>vprint</b>            | function |
| <b>positionbox</b>        | function |                          |          |

## mplib (extra tex)

|                    |          |                     |                     |
|--------------------|----------|---------------------|---------------------|
| <b>fields</b>      | function | <b>get_numeric</b>  | function            |
| <b>finder</b>      | function | <b>get_string</b>   | function            |
| <b>finders</b>     | table    | <b>new</b>          | overloaded function |
| F file             |          | <b>pen_info</b>     | function            |
| F mpstemplate      |          | <b>preprocessed</b> | function            |
| <b>get_boolean</b> | function | <b>version</b>      | function            |
| <b>get_number</b>  | function |                     |                     |



# noads (context)

|                 |       |                      |                  |
|-----------------|-------|----------------------|------------------|
| <b>handlers</b> | table |                      | F render         |
| F align         |       |                      | F resize         |
| F alternates    |       |                      | F showtree       |
| F autofences    |       |                      | F tags           |
| F classes       |       |                      | F unscript       |
| F collapse      |       |                      | F variants       |
| F domains       |       | <b>process</b>       | function         |
| F families      |       | <b>processnested</b> | function         |
| F fixscripts    |       | <b>processors</b>    | table            |
| F italics       |       |                      | F mlist_to_hlist |
| F kernpairs     |       |                      | T unscript       |
| F makeup        |       | <b>processouter</b>  | function         |
| F relocate      |       |                      |                  |

## node (basic tex)

|                              |          |                        |
|------------------------------|----------|------------------------|
| <b>check_discretionaries</b> | function | F getkern              |
| <b>check_discretionary</b>   | function | F getlang              |
| <b>copy</b>                  | function | F getleader            |
| <b>copy_list</b>             | function | F getlist              |
| <b>count</b>                 | function | F getnext              |
| <b>current_attr</b>          | function | F getnucleus           |
| <b>dimensions</b>            | function | F getoffsets           |
| <b>direct</b>                | table    | F getpenalty           |
| F check_discretionaries      |          | F getprev              |
| F check_discretionary        |          | F getproperty          |
| F copy                       |          | F getshift             |
| F copy_list                  |          | F getsub               |
| F count                      |          | F getsubtype           |
| F current_attr               |          | F getsup               |
| F dimensions                 |          | F getwhd               |
| F effective_glue             |          | F getwidth             |
| F end_of_math                |          | F has_attribute        |
| F find_attribute             |          | F has_field            |
| F first_glyph                |          | F has_glyph            |
| F flatten_discretionaries    |          | F hpack                |
| F flush_list                 |          | F insert_after         |
| F flush_node                 |          | F insert_before        |
| F flush_properties_table     |          | F is_char              |
| F free                       |          | F is_direct            |
| F get_attribute              |          | F is_glyph             |
| F get_properties_table       |          | F is_node              |
| F get_synctex_fields         |          | F is_zero_glue         |
| F getattributelist           |          | F kerning              |
| F getboth                    |          | F last_node            |
| F getbox                     |          | F length               |
| F getchar                    |          | F ligaturing           |
| F getcomponents              |          | F new                  |
| F getdepth                   |          | F protect_glyph        |
| F getdir                     |          | F protect_glyphs       |
| F getdisc                    |          | F protrusion_skippable |
| F getfam                     |          | F rangedimensions      |
| F getfield                   |          | F remove               |
| F getfont                    |          | F set_attribute        |
| F getglue                    |          | F set_properties_mode  |
| F getheight                  |          | F set_synctex_fields   |
| F getid                      |          | F setattributelist     |

|                    |                                |          |
|--------------------|--------------------------------|----------|
| F setboth          | F write                        |          |
| F setbox           | <b>effective_glue</b>          | function |
| F setchar          | <b>end_of_math</b>             | function |
| F setcomponents    | <b>family_font</b>             | function |
| F setdepth         | <b>fields</b>                  | function |
| F setdir           | <b>find_attribute</b>          | function |
| F setdisc          | <b>first_glyph</b>             | function |
| F setfam           | <b>fix_node_lists</b>          | function |
| F setfield         | <b>flatten_discretionaries</b> | function |
| F setfont          | <b>flush_list</b>              | function |
| F setglue          | <b>flush_node</b>              | function |
| F setheight        | <b>flush_properties_table</b>  | function |
| F setkern          | <b>free</b>                    | function |
| F setlang          | <b>get_attribute</b>           | function |
| F setleader        | <b>get_properties_table</b>    | function |
| F setlink          | <b>getboth</b>                 | function |
| F setlist          | <b>getchar</b>                 | function |
| F setnext          | <b>getdisc</b>                 | function |
| F setnucleus       | <b>getfield</b>                | function |
| F setoffsets       | <b>getfont</b>                 | function |
| F setpenalty       | <b>getglue</b>                 | function |
| F setprev          | <b>getid</b>                   | function |
| F setproperty      | <b>getleader</b>               | function |
| F setshift         | <b>getlist</b>                 | function |
| F setsplit         | <b>getnext</b>                 | function |
| F setsub           | <b>getprev</b>                 | function |
| F setsubtype       | <b>getproperty</b>             | function |
| F setup            | <b>getsubtype</b>              | function |
| F setwhd           | <b>getwhd</b>                  | function |
| F setwidth         | <b>has_attribute</b>           | function |
| F slide            | <b>has_field</b>               | function |
| F tail             | <b>has_glyph</b>               | function |
| F todirect         | <b>hpack</b>                   | function |
| F tonode           | <b>id</b>                      | function |
| F tostring         | <b>insert_after</b>            | function |
| F traverse         | <b>insert_before</b>           | function |
| F traverse_char    | <b>is_char</b>                 | function |
| F traverse_id      | <b>is_glyph</b>                | function |
| F unprotect_glyph  | <b>is_node</b>                 | function |
| F unprotect_glyphs | <b>is_zero_glue</b>            | function |
| F unset_attribute  | <b>kerning</b>                 | function |
| F usedlist         | <b>last_node</b>               | function |
| F uses_font        | <b>length</b>                  | function |
| F vpack            | <b>ligaturing</b>              | function |

|                             |          |                         |          |
|-----------------------------|----------|-------------------------|----------|
| <b>mlist_to_hlist</b>       | function | <b>subtypes</b>         | function |
| <b>new</b>                  | function | <b>tail</b>             | function |
| <b>next</b>                 | function | <b>tostring</b>         | function |
| <b>prev</b>                 | function | <b>traverse</b>         | function |
| <b>protect_glyph</b>        | function | <b>traverse_char</b>    | function |
| <b>protect_glyphs</b>       | function | <b>traverse_id</b>      | function |
| <b>protrusion_skippable</b> | function | <b>type</b>             | function |
| <b>rangedimensions</b>      | function | <b>types</b>            | function |
| <b>remove</b>               | function | <b>unprotect_glyph</b>  | function |
| <b>set_attribute</b>        | function | <b>unprotect_glyphs</b> | function |
| <b>set_properties_mode</b>  | function | <b>unset_attribute</b>  | function |
| <b>setfield</b>             | function | <b>usedlist</b>         | function |
| <b>setglue</b>              | function | <b>uses_font</b>        | function |
| <b>setproperty</b>          | function | <b>vpack</b>            | function |
| <b>setwhd</b>               | function | <b>whatsits</b>         | function |
| <b>slide</b>                | function | <b>write</b>            | function |
| <b>subtype</b>              | function |                         |          |

## nodes (context)

|                              |            |                               |            |
|------------------------------|------------|-------------------------------|------------|
| <b>accentcodes</b>           | data table | <b>fencecodes</b>             | data table |
| <b>aligned</b>               | function   | <b>fields</b>                 | function   |
| <b>append</b>                | function   | <b>fillcodes</b>              | data table |
| <b>apply</b>                 | function   | <b>find_attribute</b>         | function   |
| <b>applyvisuals</b>          | function   | <b>first_glyph</b>            | function   |
| <b>astable</b>               | function   | <b>firstcharacter</b>         | function   |
| <b>basepoints</b>            | function   | <b>firstcharinbox</b>         | function   |
| <b>boundarycodes</b>         | data table | <b>firstdirinbox</b>          | function   |
| <b>boxes</b>                 | table      | <b>firstglyph</b>             | function   |
| F dimensions                 |            | <b>flush</b>                  | function   |
| F direct                     |            | <b>flush_list</b>             | function   |
| F found                      |            | <b>flush_node</b>             | function   |
| F reset                      |            | <b>free</b>                   | function   |
| F restore                    |            | <b>fullhpack</b>              | function   |
| F save                       |            | <b>getattr</b>                | function   |
| <b>builders</b>              | table      | <b>getattribute</b>           | function   |
| F buildpage_filter           |            | <b>getbox</b>                 | function   |
| F vpack_filter               |            | <b>getchar</b>                | function   |
| <b>check_discretionaries</b> | function   | <b>getdisc</b>                | function   |
| <b>codes</b>                 | data table | <b>getfield</b>               | function   |
| <b>concat</b>                | function   | <b>getfont</b>                | function   |
| <b>copy</b>                  | function   | <b>getglue</b>                | function   |
| <b>copy_list</b>             | function   | <b>getid</b>                  | function   |
| <b>copy_node</b>             | function   | <b>getleader</b>              | function   |
| <b>count</b>                 | function   | <b>getlist</b>                | function   |
| <b>countall</b>              | function   | <b>getnext</b>                | function   |
| <b>current_attr</b>          | function   | <b>getprev</b>                | function   |
| <b>delete</b>                | function   | <b>getsubtype</b>             | function   |
| <b>destinations</b>          | table      | <b>getwhd</b>                 | function   |
| N attribute                  |            | <b>gluecodes</b>              | data table |
| T done                       |            | <b>glyphcodes</b>             | data table |
| F handler                    |            | <b>glyphdir_is_equal</b>      | data table |
| T stack                      |            | <b>glyphdir_is_opposite</b>   | data table |
| <b>dimensionfields</b>       | data table | <b>glyphdir_is_orthogonal</b> | data table |
| <b>dimensions</b>            | function   | <b>handlers</b>               | table      |
| <b>dir_is_pop</b>            | data table | F accessibility               |            |
| <b>dir_negation</b>          | data table | F alignbackgrounds            |            |
| <b>disccodes</b>             | data table | F backgrounds                 |            |
| <b>discretionarycodes</b>    | data table | F characters                  |            |
| <b>effective_glue</b>        | function   | F checkforleaks               |            |
| <b>end_of_math</b>           | function   | F checkglyphs                 |            |

|                                |            |                        |            |
|--------------------------------|------------|------------------------|------------|
| F cleanupbox                   |            | <b>is_node</b>         | function   |
| F cleanuppage                  |            | <b>is_nut</b>          | function   |
| F export                       |            | <b>is_rotated</b>      | data table |
| F finalize                     |            | <b>is_zero_glue</b>    | function   |
| F flatten                      |            | <b>ischar</b>          | function   |
| F flattenline                  |            | <b>isglyph</b>         | function   |
| F migrate                      |            | <b>kerncodes</b>       | data table |
| F protectglyphs                |            | <b>kerning</b>         | function   |
| F stripping                    |            | <b>keys</b>            | table      |
| F textbackgrounds              |            | T whatsit              |            |
| F unprotectglyphs              |            | <b>last_node</b>       | function   |
| <b>has_attribute</b>           | function   | <b>leadercodes</b>     | data table |
| <b>has_field</b>               | function   | <b>leftmarginwidth</b> | function   |
| <b>has_glyph</b>               | function   | <b>length</b>          | function   |
| <b>hpack</b>                   | function   | <b>ligaturing</b>      | function   |
| <b>idstousing</b>              | function   | <b>linefillers</b>     | table      |
| <b>ignorablefields</b>         | data table | D data                 |            |
| <b>injections</b>              | table      | F define               |            |
| F copy                         |            | F enable               |            |
| F getligaindex                 |            | F handler              |            |
| F getthreshold                 |            | <b>lines</b>           | table      |
| F handler                      |            | T boxed                |            |
| F installgetspaceboth          |            | F register             |            |
| F installnewkern               |            | F setup                |            |
| F isspace                      |            | F stage_one            |            |
| F keepcounts                   |            | F stage_two            |            |
| F reset                        |            | D data                 |            |
| F resetcounts                  |            | F finalize             |            |
| F setcursive                   |            | F number               |            |
| F setkern                      |            | N scratchbox           |            |
| F setligaindex                 |            | <b>link</b>            | function   |
| F setmark                      |            | <b>linked</b>          | function   |
| F setmove                      |            | <b>list</b>            | function   |
| F setposition                  |            | <b>listablefields</b>  | data table |
| F setspacekerns                |            | <b>listcodes</b>       | data table |
| <b>insert_after</b>            | function   | <b>listtoutf</b>       | function   |
| <b>insert_before</b>           | function   | <b>load</b>            | function   |
| <b>insert_list_after</b>       | function   | <b>locate</b>          | function   |
| <b>installattributehandler</b> | function   | <b>margincodes</b>     | data table |
| <b>is_char</b>                 | function   | <b>marginkerncodes</b> | data table |
| <b>is_direct</b>               | function   | <b>markers</b>         | table      |
| <b>is_display_math</b>         | function   | F get                  |            |
| <b>is_glyph</b>                | function   | <b>mathcodes</b>       | data table |
| <b>is_mirrored</b>             | data table | <b>maxboxwidth</b>     | function   |

**mlist\_to\_hlist**

**new**

**noadcodes**

**noadoptoptions**

N axis

N exact

N left

N middle

N no\_axis

N right

N set

N unused\_1

N unused\_2

**nodecodes**

**nopts**

**nuts**

F append

F apply

F applyvisuals

F check\_discretionaries

F concat

F copy

F copy\_list

F copy\_no\_components

F copy\_node

F copy\_only\_glyphs

F copy\_properties

F copyvisual

F count

F count\_components

F countall

F current\_attr

F delete

F dimensions

F effective\_glue

F end\_of\_math

F find\_attribute

F first\_glyph

F firstcharacter

F firstcharinbox

F firststglyph

F flush

F flush\_list

F flush\_node

function

function

data table

table

data table

function

table

F free

F fullhpack

F get\_components

F get\_synctex\_fields

F getattr

F getattribute

F getattributelist

F getattrlist

F getboth

F getbox

F getboxglue

F getchar

F getcomponents

F getdepth

F getdir

F getdisc

F getdiscretionary

F getfam

F getfield

F getfont

F getglue

F getheight

F getid

F getkern

F getlang

F getlanguage

F getleader

F getlist

F getnext

F getnucleus

F getoffsets

F getpenalty

F getprev

F getprop

F getshift

F getsub

F getsubtype

F getsup

F getsurround

F getwhd

F getwidth

F has\_attribute

F has\_field

F has\_glyph

|                     |                    |
|---------------------|--------------------|
| F hpack             | F lateluafunction  |
| F insert_after      | F leader           |
| F insert_before     | F leftmarginkern   |
| F insert_list_after | F leftskip         |
| F is_char           | F lineskip         |
| F is_direct         | F mathchar         |
| F is_display_math   | F mathtextchar     |
| F is_glyph          | F negatedglue      |
| F is_node           | F noad             |
| F is_nut            | F pdfannotation    |
| F is_zero_glue      | F pdfdestination   |
| F ischar            | F pdfdirectliteral |
| F isglyph           | F pdfliteral       |
| F kerning           | F pdforiginliteral |
| F last_node         | F pdfpageliteral   |
| F leftmarginwidth   | F pdfrawliteral    |
| F length            | F pdfrestore       |
| F ligaturing        | F pdfsave          |
| F link              | F pdfsetmatrix     |
| F linked            | F penalty          |
| F locate            | F radical          |
| F mlist_to_hlist    | F register         |
| F nestedtracedslide | F rightmarginkern  |
| F new               | F rightskip        |
| T pool              | F rule             |
| F accent            | F shrink           |
| F baselineskip      | F special          |
| F boundary          | F stretch          |
| F choice            | F subbox           |
| F cleanup           | F submlist         |
| F delim             | F temp             |
| F delimiter         | F textdir          |
| F disc              | F usage            |
| F emptyrule         | F userattributes   |
| F fence             | T usersids         |
| F fontkern          | N margins.inline   |
| F fraction          | N property         |
| F glue              | N splitters.one    |
| F gluespec          | N splitters.two    |
| F glyph             | F userlist         |
| F hlist             | F userlua          |
| F italicckern       | F usernumber       |
| F kern              | F userrule         |
| F latelua           | F userstring       |



|                       |                      |
|-----------------------|----------------------|
| F usertokens          | F setlist            |
| F vlist               | F setnext            |
| F wordboundary        | F setnucleus         |
| F prepend             | F setoffsets         |
| F protect_glyph       | F setpenalty         |
| F protect_glyphs      | F setprev            |
| F protrusion_skipable | F setprop            |
| F rangedimensions     | F setshift           |
| F rawprop             | F setsplit           |
| F reference           | F setsub             |
| F rehpick             | F setsubtype         |
| F remove              | F setsup             |
| F repackhlist         | F setsurround        |
| F replace             | F setunsetattributes |
| F rightmarginwidth    | F setvisual          |
| T rules               | F setvisuals         |
| F userrule            | F setwhd             |
| F set_attribute       | F setwidth           |
| F set_components      | F slide              |
| F set_synctex_fields  | F somepenalty        |
| F setattr             | F somespace          |
| F setattribute        | F splitbox           |
| F setattributelist    | F tail               |
| F setattributes       | F take_components    |
| F setattrlist         | F takeattr           |
| F setboth             | F takebox            |
| F setbox              | F takelist           |
| F setboxglue          | F theprop            |
| F setchar             | F tonode             |
| F setcomponents       | F tonodes            |
| F setdepth            | F tonut              |
| F setdir              | F tosequence         |
| F setdisc             | F toString           |
| F setdiscretionary    | F tracedslide        |
| F setfam              | F traverse           |
| F setfield            | F traverse_char      |
| F setfont             | F traverse_id        |
| F setglue             | T typesetters        |
| F setheight           | F tohbox             |
| F setkern             | F tohpack            |
| F setlang             | F tonodes            |
| F setlanguage         | F to vbox            |
| F setleader           | F to vpack           |
| F setlink             | F unprotect_glyph    |

|                            |            |                             |            |
|----------------------------|------------|-----------------------------|------------|
| F unprotect_glyphs         |            | F pdfsetmatrix              |            |
| F unset_attribute          |            | F register                  |            |
| F unsetattribute           |            | F rule                      |            |
| F unsetattributes          |            | F special                   |            |
| F untracedslide            |            | F usage                     |            |
| F use_components           |            | F usernumber                |            |
| F usedlist                 |            | F vlist                     |            |
| F uses_font                |            | <b>prepend</b>              | function   |
| F vianodes                 |            | <b>print</b>                | function   |
| F vianuts                  |            | <b>processors</b>           | table      |
| F vpack                    |            | F contribute_filter         |            |
| F write                    |            | B enabled                   |            |
| <b>packlist</b>            | function   | F hpack_filter              |            |
| <b>pardir_is_equal</b>     | data table | F post_linebreak_filter     |            |
| <b>pardir_is_opposite</b>  | data table | F pre_linebreak_filter      |            |
| <b>pardir_is_parallel</b>  | data table | F tracer                    |            |
| <b>partextdir_is_equal</b> | data table | <b>processranges</b>        | function   |
| <b>penaltycodes</b>        | data table | <b>processwords</b>         | function   |
| <b>plugindata</b>          | table      | <b>properties</b>           | table      |
| F finalizer                |            | T actions                   |            |
| F initializer              |            | F delayed                   |            |
| S name                     |            | F fdelayed                  |            |
| T namespace                |            | F immediate                 |            |
| N attribute                |            | F attach                    |            |
| D data                     |            | T data                      |            |
| F enable                   |            | F delayed                   |            |
| F handler                  |            | <b>protect_glyph</b>        | function   |
| F register                 |            | <b>protect_glyphs</b>       | function   |
| D registered               |            | <b>protrusion_skippable</b> | function   |
| D values                   |            | <b>pts</b>                  | function   |
| F processor                |            | <b>radicalcodes</b>         | data table |
| <b>points</b>              | function   | <b>rangedimensions</b>      | function   |
| <b>pool</b>                | table      | <b>reference</b>            | function   |
| F baselineskip             |            | <b>references</b>           | table      |
| F cleanup                  |            | N attribute                 |            |
| F glyph                    |            | T done                      |            |
| F hlist                    |            | F handler                   |            |
| F kern                     |            | T stack                     |            |
| F latelua                  |            | <b>reheapack</b>            | function   |
| F lineskip                 |            | <b>remove</b>               | function   |
| F pdfdirectliteral         |            | <b>repackhlist</b>          | function   |
| F pdforiginliteral         |            | <b>replace</b>              | function   |
| F pdfrestore               |            | <b>report</b>               | function   |
| F pdfsave                  |            | <b>rightmarginwidth</b>     | function   |

|                           |            |                             |            |
|---------------------------|------------|-----------------------------|------------|
| <b>rulecodes</b>          | data table | F getparameters             |            |
| <b>rules</b>              | table      | F getsamples                |            |
| D data                    |            | F resetsamples              |            |
| F define                  |            | F takesample                |            |
| F enable                  |            | <b>somepenalty</b>          | function   |
| F handler                 |            | <b>somespace</b>            | function   |
| T ruleactions             |            | <b>splitbox</b>             | function   |
| F box                     |            | <b>stripdiscretionaries</b> | function   |
| F draw                    |            | <b>stripping</b>            | table      |
| F fill                    |            | T glyphs                    |            |
| F mp                      |            | F set                       |            |
| F stroke                  |            | <b>striprange</b>           | function   |
| F userrule                |            | <b>tail</b>                 | function   |
| <b>save</b>               | function   | <b>takeattr</b>             | function   |
| <b>serialize</b>          | function   | <b>takebox</b>              | function   |
| <b>serializebox</b>       | function   | <b>tasks</b>                | table      |
| <b>set_attribute</b>      | function   | F actions                   |            |
| <b>setattr</b>            | function   | F appendaction              |            |
| <b>setattribute</b>       | function   | F disableaction             |            |
| <b>setattributes</b>      | function   | F disablegroup              |            |
| <b>setboth</b>            | function   | F enableaction              |            |
| <b>setbox</b>             | function   | F enablegroup               |            |
| <b>setboxtonaturalwd</b>  | function   | F freeze                    |            |
| <b>setfield</b>           | function   | F freezegroup               |            |
| <b>setglue</b>            | function   | F new                       |            |
| <b>setlink</b>            | function   | F prependaction             |            |
| <b>setlist</b>            | function   | F removeaction              |            |
| <b>setnext</b>            | function   | F replaceaction             |            |
| <b>setprev</b>            | function   | F restart                   |            |
| <b>setunsetattributes</b> | function   | F setaction                 |            |
| <b>setwhd</b>             | function   | F showactions               |            |
| <b>shifts</b>             | table      | F table                     |            |
| D data                    |            | <b>textdir_is_equal</b>     | data table |
| F define                  |            | <b>textdir_is_is</b>        | data table |
| F enable                  |            | <b>textdir_is_opposite</b>  | data table |
| F handler                 |            | <b>textdir_is_parallel</b>  | data table |
| <b>show</b>               | function   | <b>tobasepoints</b>         | function   |
| <b>showboxes</b>          | function   | <b>tocentimeters</b>        | function   |
| <b>showcodes</b>          | function   | <b>tociceros</b>            | function   |
| <b>showlist</b>           | function   | <b>todidots</b>             | function   |
| <b>showsimplelist</b>     | function   | <b>todimen</b>              | function   |
| <b>skipcodes</b>          | data table | <b>toinches</b>             | function   |
| <b>slide</b>              | function   | <b>tomillimeters</b>        | function   |
| <b>snapshots</b>          | table      | <b>tonewciceros</b>         | function   |

|                       |          |                         |            |
|-----------------------|----------|-------------------------|------------|
| <b>tonewdidots</b>    | function | F nofsteps              |            |
| <b>tonode</b>         | function | F register              |            |
| <b>tonodes</b>        | function | F reset                 |            |
| <b>tonut</b>          | function | F start                 |            |
| <b>topicas</b>        | function | F stop                  |            |
| <b>topoints</b>       | function | F stop                  |            |
| <b>toscaledpoints</b> | function | T transparencies        |            |
| <b>tosequence</b>     | function | F reset                 |            |
| <b>tostring</b>       | function | F set                   |            |
| <b>totable</b>        | function | F setlist               |            |
| <b>totree</b>         | function | <b>traverse</b>         | function   |
| <b>toutf</b>          | function | <b>traverse_char</b>    | function   |
| <b>tracers</b>        | table    | <b>traverse_id</b>      | function   |
|                       |          | <b>typesetters</b>      | table      |
| T characters          |          | F hbox                  |            |
| F collect             |          | F hpack                 |            |
| F equal               |          | F tohbox                |            |
| F start               |          | F tohpack               |            |
| F string              |          | F tonodes               |            |
| F unicodes            |          | F to vbox               |            |
| T colors              |          | F to vpack              |            |
| F reset               |          | F vpack                 |            |
| F set                 |          | <b>unprotect_glyph</b>  | function   |
| F setlist             |          | <b>unprotect_glyphs</b> | function   |
| F fontchar            |          | <b>unset_attribute</b>  | function   |
| T frequencies         |          | <b>unsetattribute</b>   | function   |
| F register            |          | <b>unsetattributes</b>  | function   |
| T pool                |          | <b>usedlist</b>         | function   |
| T nodes               |          | <b>usercodes</b>        | data table |
| F rule                |          | <b>vianodes</b>         | function   |
| T nuts                |          | <b>vianuts</b>          | function   |
| F rule                |          | <b>visualizebox</b>     | function   |
| F resetproperties     |          | <b>visualizers</b>      | table      |
| F rule                |          | F attribute             |            |
| F setlist             |          | T attributes            |            |
| F setproperties       |          | F box                   |            |
| F start               |          | F handler               |            |
| T steppers            |          | F markfonts             |            |
| F check               |          | F setfont               |            |
| F codes               |          | F setlayer              |            |
| F features            |          | F setruledglyph         |            |
| F font                |          | F setvisual             |            |
| F glyphs              |          | <b>vpack</b>            | function   |
| F message             |          | <b>whatcodes</b>        | data table |
| F messages            |          |                         |            |

**whatsitcodes**  
**write**

data table  
function

## number (context)

|                       |            |
|-----------------------|------------|
|                       | function   |
| <b>basepoints</b>     | function   |
| <b>bytetodecimal</b>  | function   |
| <b>compactfloat</b>   | function   |
| <b>decimaltobyte</b>  | function   |
| <b>dimenfactors</b>   | data table |
| <b>formatted</b>      | function   |
| <b>formattedfloat</b> | function   |
| <b>maxdimen</b>       | number     |
| <b>nopts</b>          | function   |
| <b>percent</b>        | function   |
| <b>points</b>         | function   |
| <b>pts</b>            | function   |
| <b>signed</b>         | function   |
| <b>sparseexponent</b> | function   |
| <b>splitdimen</b>     | function   |
| <b>tobasepoints</b>   | function   |
| <b>tobitstring</b>    | function   |

|                       |          |
|-----------------------|----------|
| <b>tocentimeters</b>  | function |
| <b>tociceros</b>      | function |
| <b>tocontext</b>      | function |
| <b>todidots</b>       | function |
| <b>todimen</b>        | function |
| <b>toevenhex</b>      | function |
| <b>toinches</b>       | function |
| <b>tomillimeters</b>  | function |
| <b>tonewciceros</b>   | function |
| <b>tonewdidots</b>    | function |
| <b>tonumberf</b>      | function |
| <b>tonumberg</b>      | function |
| <b>topicas</b>        | function |
| <b>topoints</b>       | function |
| <b>toscaled</b>       | function |
| <b>toscaledpoints</b> | function |
| <b>valid</b>          | function |

# objects (context)

|                   |          |                  |          |
|-------------------|----------|------------------|----------|
| <b>data</b>       | table    | <b>page</b>      | function |
| <b>dimensions</b> | function | <b>reference</b> | function |
| <b>found</b>      | function | <b>register</b>  | function |
| <b>n</b>          | number   | <b>restore</b>   | function |

## os (basic lua)

|                     |                     |                      |                     |
|---------------------|---------------------|----------------------|---------------------|
| <b>__getenv__</b>   | function            | <b>remove</b>        | overloaded function |
| <b>__setenv__</b>   | function            | <b>rename</b>        | overloaded function |
| <b>binsuffix</b>    | string              | <b>resolvers</b>     | table               |
| <b>binsuffixes</b>  | table               | <b>F bits</b>        |                     |
| <b>clock</b>        | function            | <b>resultof</b>      | function            |
| <b>converttime</b>  | function            | <b>runtime</b>       | function            |
| <b>date</b>         | function            | <b>selfdir</b>       | string              |
| <b>difftime</b>     | function            | <b>setenv</b>        | overloaded function |
| <b>env</b>          | data table          | <b>setlocale</b>     | overloaded function |
| <b>exec</b>         | overloaded function | <b>sleep</b>         | function            |
| <b>execute</b>      | overloaded function | <b>spawn</b>         | overloaded function |
| <b>exit</b>         | function            | <b>time</b>          | function            |
| <b>fulltime</b>     | function            | <b>times</b>         | function            |
| <b>getenv</b>       | overloaded function | <b>timezone</b>      | function            |
| <b>gettimeofday</b> | function            | <b>tmpdir</b>        | function            |
| <b>isleapyear</b>   | function            | <b>tmpname</b>       | function            |
| <b>launch</b>       | function            | <b>today</b>         | function            |
| <b>libsuffix</b>    | string              | <b>type</b>          | string              |
| <b>localtime</b>    | function            | <b>uname</b>         | function            |
| <b>name</b>         | string              | <b>uuid</b>          | function            |
| <b>newline</b>      | string              | <b>validdatetime</b> | function            |
| <b>nofdays</b>      | function            | <b>weekday</b>       | function            |
| <b>now</b>          | function            | <b>where</b>         | function            |
| <b>pipeto</b>       | function            | <b>which</b>         | function            |
| <b>platform</b>     | string              |                      |                     |



## package (basic lua)

|                      |          |                    |          |
|----------------------|----------|--------------------|----------|
| <b>config</b>        | string   | <b>luapaths</b>    | function |
| <b>cpath</b>         | string   | <b>path</b>        | string   |
| <b>extralibpath</b>  | function | <b>poplibpath</b>  | function |
| <b>extralibpaths</b> | function | <b>popluapath</b>  | function |
| <b>extralupath</b>   | function | <b>preload</b>     | table    |
| <b>extralupaths</b>  | function | <b>pushlibpath</b> | function |
| <b>helpers</b>       | table    | <b>pushluapath</b> | function |
| <b>libpaths</b>      | function | <b>searchers</b>   | table    |
| <b>loaded</b>        | table    | <b>searchpath</b>  | function |
| <b>loaders</b>       | table    | <b>seeall</b>      | function |
| <b>loadlib</b>       | function |                    |          |

# pagebuilders (context)

## columnsets      table

- F add
- F block
- F check
- F currentcolumn
- F define
- F finishflush
- F flushareas
- F flushcolumn
- F flushrest
- F goto
- F noto
- F prepareflush
- F put
- F registerarea
- F reset
- F setarea

- F sethsize
- F sethspace
- F setlines
- F setproperties
- F setstart
- F setvsize

## injections      table

- F flushafter
- F flushbefore
- F save

## mixedcolumns      table

- F cleanup
- F finalize
- F getlist
- F getrest
- F getsplit
- F setsplit

## pdf (basic tex)

|                                |          |                                |                     |
|--------------------------------|----------|--------------------------------|---------------------|
| <b>disablecommand</b>          | function | <b>hasmatrix</b>               | function            |
| <b>fontname</b>                | function | <b>immediateobj</b>            | function            |
| <b>fontobjnum</b>              | function | <b>mapfile</b>                 | function            |
| <b>fontsize</b>                | function | <b>mapline</b>                 | function            |
| <b>getcatalg</b>               | function | <b>maxobjnum</b>               | function            |
| <b>getcompresslevel</b>        | function | <b>newcolorstack</b>           | function            |
| <b>getcreationdate</b>         | function | <b>obj</b>                     | function            |
| <b>getdecimaldigits</b>        | function | <b>objtype</b>                 | function            |
| <b>getdestmargin</b>           | function | <b>pageref</b>                 | function            |
| <b>getgentounicode</b>         | function | <b>print</b>                   | function            |
| <b>gethpos</b>                 | function | <b>refobj</b>                  | function            |
| <b>getignoreunknownimages</b>  | function | <b>registerannot</b>           | overloaded function |
| <b>getimageresolution</b>      | function | <b>reserveobj</b>              | function            |
| <b>getinclusionerrorlevel</b>  | function | <b>setcatalg</b>               | overloaded function |
| <b>getinfo</b>                 | function | <b>setcompresslevel</b>        | function            |
| <b>getlastannot</b>            | function | <b>setdecimaldigits</b>        | function            |
| <b>getlastlink</b>             | function | <b>setdestmargin</b>           | function            |
| <b>getlastobj</b>              | function | <b>setfontattributes</b>       | function            |
| <b>getlinkmargin</b>           | function | <b>setgentounicode</b>         | function            |
| <b>getmajorversion</b>         | function | <b>setignoreunknownimages</b>  | function            |
| <b>getmatrix</b>               | function | <b>setimageresolution</b>      | function            |
| <b>getminorversion</b>         | function | <b>setinclusionerrorlevel</b>  | function            |
| <b>getnames</b>                | function | <b>setinfo</b>                 | overloaded function |
| <b>getobjcompresslevel</b>     | function | <b>setlinkmargin</b>           | function            |
| <b>getomitcidset</b>           | function | <b>setmajorversion</b>         | function            |
| <b>getorigin</b>               | function | <b>setminorversion</b>         | function            |
| <b>getpageattributes</b>       | function | <b>setnames</b>                | overloaded function |
| <b>getpageresources</b>        | function | <b>setobjcompresslevel</b>     | function            |
| <b>getpagesattributes</b>      | function | <b>setomitcidset</b>           | function            |
| <b>getpkresolution</b>         | function | <b>setorigin</b>               | function            |
| <b>getpos</b>                  | function | <b>setpageattributes</b>       | overloaded function |
| <b>getretval</b>               | function | <b>setpageresources</b>        | overloaded function |
| <b>getsuppressoptionalinfo</b> | function | <b>setpagesattributes</b>      | overloaded function |
| <b>getthreadmargin</b>         | function | <b>setpkresolution</b>         | function            |
| <b>gettrailer</b>              | function | <b>setsuppressoptionalinfo</b> | function            |
| <b>gettrailerid</b>            | function | <b>setthreadmargin</b>         | function            |
| <b>getversion</b>              | function | <b>settrailer</b>              | overloaded function |
| <b>getvpos</b>                 | function | <b>settrailerid</b>            | overloaded function |
| <b>getxformattributes</b>      | function | <b>setxformattributes</b>      | function            |
| <b>getxformmargin</b>          | function | <b>setxformmargin</b>          | function            |
| <b>getxformresources</b>       | function |                                |                     |

**setxformresources**

function

**xformname**

function

# pdfscanner (context)

**scan** function

# physics (context)

**units** table

F registerunit

D tables

# publications (context)

|                         |            |                             |          |
|-------------------------|------------|-----------------------------|----------|
| <b>addtexentry</b>      | function   | <b>converttoxml</b>         | function |
| <b>analyze</b>          | function   | <b>currentspecification</b> | table    |
| <b>anywhere</b>         | function   | S author                    |          |
| <b>authorcache</b>      | data table | T categories                |          |
| <b>authorcollapsers</b> | data table | T article                   |          |
| <b>authorhashers</b>    | table      | S category                  |          |
| F invertedshort         |            | T extra                     |          |
| F normal                |            | T fields                    |          |
| F normalinverted        |            | S author                    |          |
| F normalshort           |            | S editor                    |          |
| F sequential            |            | S journal                   |          |
| F sequentialshort       |            | S keywords                  |          |
| F short                 |            | S note                      |          |
| <b>authormap</b>        | data table | S number                    |          |
| <b>authortoregister</b> | function   | S pages                     |          |
| <b>casters</b>          | table      | S title                     |          |
| F author                |            | S volume                    |          |
| F keyword               |            | S year                      |          |
| F pagenumber            |            | T optional                  |          |
| F range                 |            | T required                  |          |
| <b>checkeddataset</b>   | function   | T sets                      |          |
| <b>citevariants</b>     | table      | T author                    |          |
| F author                |            | T virtual                   |          |
| F authornum             |            | T book                      |          |
| F authoryear            |            | S category                  |          |
| F authoryears           |            | T extra                     |          |
| F category              |            | T fields                    |          |
| F default               |            | S address                   |          |
| F entry                 |            | S author                    |          |
| F index                 |            | S edition                   |          |
| F keywords              |            | S editor                    |          |
| F num                   |            | S keywords                  |          |
| F page                  |            | S note                      |          |
| F short                 |            | S number                    |          |
| F tag                   |            | S publisher                 |          |
| F textnum               |            | S subtitle                  |          |
| F year                  |            | S title                     |          |
| <b>collected</b>        | data table | S volume                    |          |
| <b>components</b>       | table      | S year                      |          |
| F author                |            | T optional                  |          |
| <b>concatstate</b>      | function   | T required                  |          |

|                |                        |            |
|----------------|------------------------|------------|
| T sets         | S pages                |            |
| T author       | S volume               |            |
| T editionset   | S version              |            |
| T virtual      | D virtual              |            |
| T demo-a       | T virtualfields        |            |
| S category     | B authornum            |            |
| T extra        | B authoryear           |            |
| T fields       | B authoryears          |            |
| S author       | B num                  |            |
| S institution  | B suffix               |            |
| S organization | <b>datasets</b>        | table      |
| S subtitle     | <b>detailed</b>        | table      |
| S title        | <b>endnotes_to_btx</b> | function   |
| S year         | <b>enhancer</b>        | table      |
| T optional     | S arguments            |            |
| T required     | T askip                |            |
| T sets         | B dirty                |            |
| T author       | T gskip                |            |
| T virtual      | T kind                 |            |
| T demo-b       | T list                 |            |
| S category     | T system               |            |
| T extra        | T order                |            |
| T fields       | <b>enhancers</b>       | table      |
| S author       | F details              |            |
| S institution  | F order                |            |
| S organization | F suffixes             |            |
| S subtitle     | <b>finder</b>          | function   |
| S title        | <b>firstofrange</b>    | function   |
| S year         | <b>found</b>           | function   |
| T optional     | <b>get</b>             | function   |
| T required     | <b>getcasted</b>       | function   |
| T sets         | <b>getdetail</b>       | function   |
| T authors      | <b>getdirect</b>       | function   |
| T virtual      | <b>getfaster</b>       | function   |
| S comment      | <b>getfield</b>        | function   |
| S copyright    | <b>getfuzzy</b>        | function   |
| T fields       | <b>getindex</b>        | function   |
| S name         | <b>inspectors</b>      | data table |
| T types        | <b>journals</b>        | table      |
| S author       | F abbreviated          |            |
| S editor       | F add                  |            |
| S keywords     | F expanded             |            |
| S number       | F load                 |            |
| S page         | F save                 |            |



|                           |          |                            |          |
|---------------------------|----------|----------------------------|----------|
| <b>lastofrange</b>        | function | F refman                   |          |
| <b>lists</b>              | table    | F registercleaner          |          |
|                           |          | F xml                      |          |
| F collectentries          |          | <b>loadreplacementfile</b> | function |
| F combiinlist             |          | <b>new</b>                 | function |
| F fetchentries            |          | <b>okay</b>                | function |
| F filterall               |          | <b>oneorange</b>           | function |
| F flushcombi              |          | <b>parenttag</b>           | function |
| F flushentry              |          | <b>permitted</b>           | function |
| F flushtag                |          | <b>refman_to_btx</b>       | function |
| T methods                 |          | <b>resolvedname</b>        | function |
| F dataset                 |          | <b>save</b>                | function |
| F force                   |          | <b>search</b>              | function |
| F global                  |          | <b>setcategory</b>         | function |
| F local                   |          | <b>setspecification</b>    | function |
| F nofregistered           |          | <b>singularorplural</b>    | function |
| F prepareentries          |          | <b>sortedentries</b>       | function |
| F register                |          | <b>sortmethods</b>         | table    |
| F sameasprevious          |          |                            |          |
| T sorters                 |          | T authoryear               |          |
| F cite                    |          | T sequence                 |          |
| F dataset                 |          | <b>specifications</b>      | table    |
| F default                 |          | T default                  |          |
| F index                   |          | S author                   |          |
| F list                    |          | S comment                  |          |
| F reference               |          | S copyright                |          |
| F short                   |          | S name                     |          |
| F used                    |          | S version                  |          |
| F uservariable            |          | D virtual                  |          |
| <b>listvariants</b>       | table    | <b>splitauthor</b>         | function |
| F default                 |          | <b>splitoneauthor</b>      | function |
| F index                   |          | <b>statistics</b>          | table    |
| F num                     |          | N nofbytes                 |          |
| F short                   |          | N nofdatasets              |          |
| F tag                     |          | N nofdefinitions           |          |
| <b>load</b>               | function | N nofshortcuts             |          |
| <b>loadbibdata</b>        | function | <b>tables</b>              | table    |
| <b>loaddefinitionfile</b> | function | D implicits                |          |
| <b>loaders</b>            | table    | D origins                  |          |
| F bbl                     |          | D privates                 |          |
| F bib                     |          | D sets                     |          |
| F buffer                  |          | D specials                 |          |
| F endnote                 |          | D types                    |          |
| F json                    |          | D virtuals                 |          |
| F lua                     |          | <b>tags</b>                | function |

**tracers**

table

F showdatasetauthors  
F showdatasetcompleteness  
F showdatasetfields  
F showentry  
F showfields  
F showhashedauthors  
F showtables  
F showvariants

**typesetters**

table

F author

F string

**usedataset**

function

**usedentries**

function

**writers**

table

F author

F keyword

F pagenumber

F range

## regimes (context)

|                   |          |
|-------------------|----------|
| <b>cleanup</b>    | function |
| <b>disable</b>    | function |
| <b>enable</b>     | function |
| <b>fromregime</b> | function |
| <b>pop</b>        | function |

|                  |          |
|------------------|----------|
| <b>process</b>   | function |
| <b>push</b>      | function |
| <b>toregime</b>  | function |
| <b>translate</b> | function |

# resolvers (context)

|                                     |            |                                |            |
|-------------------------------------|------------|--------------------------------|------------|
| <b>allprefixes</b>                  | function   | <b>findpath</b>                | function   |
| <b>appendhash</b>                   | function   | <b>findtexfile</b>             | function   |
| <b>automount</b>                    | function   | <b>findwildcardfile</b>        | function   |
| <b>automounted</b>                  | table      | <b>findwildcardfiles</b>       | function   |
| <b>booleanvariable</b>              | function   | <b>formatofsuffix</b>          | function   |
| <b>cacheversion</b>                 | string     | <b>formatofvariable</b>        | function   |
| <b>checkedvariable</b>              | function   | <b>formats</b>                 | data table |
| <b>cleanedpathlist</b>              | function   | <b>foundintree</b>             | function   |
| <b>cleanpath</b>                    | function   | <b>foundintrees</b>            | function   |
| <b>cleanpathlist</b>                | function   | <b>generators</b>              | data table |
| <b>concatinators</b>                | data table | <b>get_from_content</b>        | function   |
| <b>configbanner</b>                 | string     | <b>getenv</b>                  | function   |
| <b>configurationfiles</b>           | function   | <b>getextrapaths</b>           | function   |
| <b>criticalvars</b>                 | data table | <b>getfilehashes</b>           | function   |
| <b>dangerous</b>                    | data table | <b>gethashes</b>               | function   |
| <b>datastate</b>                    | function   | <b>getownpath</b>              | function   |
| <b>defaultsuffixes</b>              | table      | <b>getreadfilename</b>         | function   |
| <b>dowithfilesandreport</b>         | function   | <b>hashers</b>                 | data table |
| <b>dowithfilesintree</b>            | function   | <b>homedir</b>                 | string     |
| <b>dowithpath</b>                   | function   | <b>initialized</b>             | function   |
| <b>dowithvariable</b>               | function   | <b>inputstack</b>              | table      |
| <b>env</b>                          | function   | <b>installinputfilehandler</b> | function   |
| <b>executers</b>                    | table      | <b>installinputlinehandler</b> | function   |
| <b>expandbraces</b>                 | function   | <b>jobpath</b>                 | function   |
| <b>expandedpathfromlist</b>         | function   | <b>jobs</b>                    | table      |
| <b>expandedpathlist</b>             | function   | F currentcomponent             |            |
| <b>expandedpathlistfromvariable</b> | function   | F currentenvironment           |            |
| <b>expandpath</b>                   | function   | F currentproduct               |            |
| <b>expandpathfromvariable</b>       | function   | F currentproject               |            |
| <b>expansion</b>                    | function   | F justacomponent               |            |
| <b>extendtexmfvariable</b>          | function   | D processors                   |            |
| <b>filtered_from_content</b>        | function   | F productcomponent             |            |
| <b>find_file</b>                    | function   | F usefile                      |            |
| <b>find_files</b>                   | function   | <b>joinpath</b>                | function   |
| <b>findbinfile</b>                  | function   | <b>knownvariables</b>          | function   |
| <b>findctxfile</b>                  | function   | <b>load</b>                    | function   |
| <b>finders</b>                      | data table | <b>loadbinfile</b>             | function   |
| <b>findfile</b>                     | function   | <b>loaders</b>                 | data table |
| <b>findfiles</b>                    | function   | <b>loadlua lib</b>             | function   |
| <b>findgivenfile</b>                | function   | <b>loadtexfile</b>             | function   |
| <b>findgivenfiles</b>               | function   | <b>loadtime</b>                | function   |

|                          |            |                                 |            |
|--------------------------|------------|---------------------------------|------------|
| <b>locateformat</b>      | function   | <b>savers</b>                   | data table |
| <b>locators</b>          | data table | <b>scandata</b>                 | function   |
| <b>luacnffallback</b>    | string     | <b>scanfiles</b>                | function   |
| <b>luacnfname</b>        | string     | <b>schemes</b>                  | table      |
| <b>luacnfspec</b>        | string     | T cleaners                      |            |
| <b>luacnfstate</b>       | string     | F md5                           |            |
| <b>macros</b>            | table      | F none                          |            |
| F convertfile            |            | F strip                         |            |
| F decodecomment          |            | F cleanname                     |            |
| F enablecomment          |            | F fetchstring                   |            |
| F encodecomment          |            | F fetchtable                    |            |
| F preprocessed           |            | F install                       |            |
| F processmk              |            | <b>setdynamic</b>               | function   |
| F processmkvi            |            | <b>setenv</b>                   | function   |
| F version                |            | <b>setmemstream</b>             | function   |
| <b>maxreadlevel</b>      | number     | <b>showpath</b>                 | function   |
| <b>methodhandler</b>     | function   | <b>simplescanfiles</b>          | function   |
| <b>openbinfile</b>       | function   | <b>splitconfigurationpath</b>   | function   |
| <b>openers</b>           | data table | <b>splitexpansions</b>          | function   |
| <b>openfile</b>          | function   | <b>splitmethod</b>              | function   |
| <b>opentexfile</b>       | function   | <b>splitpath</b>                | function   |
| <b>ownpath</b>           | string     | <b>stackpath</b>                | function   |
| <b>popextrapath</b>      | function   | <b>starttiming</b>              | function   |
| <b>poppath</b>           | function   | <b>stoptiming</b>               | function   |
| <b>prefixes</b>          | data table | <b>suffixes</b>                 | data table |
| <b>prependhash</b>       | function   | <b>suffixmap</b>                | data table |
| <b>pushextrapath</b>     | function   | <b>suffixofformat</b>           | function   |
| <b>pushpath</b>          | function   | <b>texdatablob</b>              | function   |
| <b>registerextrapath</b> | function   | <b>toppath</b>                  | function   |
| <b>registerfile</b>      | function   | <b>unexpandedpath</b>           | function   |
| <b>registerfilehash</b>  | function   | <b>unexpandedpathlist</b>       | function   |
| <b>registerintrees</b>   | function   | <b>unresolve</b>                | function   |
| <b>registermethod</b>    | function   | <b>updaterelations</b>          | function   |
| <b>registerzipfile</b>   | function   | <b>updatescript</b>             | function   |
| <b>relations</b>         | data table | <b>uselibrary</b>               | function   |
| <b>renew</b>             | function   | <b>usertypes</b>                | data table |
| <b>renewcache</b>        | function   | <b>usezipfile</b>               | function   |
| <b>repath</b>            | function   | <b>validatedpath</b>            | function   |
| <b>reset</b>             | function   | <b>variable</b>                 | function   |
| <b>resetextrapaths</b>   | function   | <b>variableofformat</b>         | function   |
| <b>resetmemstream</b>    | function   | <b>variableofformatorsuffix</b> | function   |
| <b>resetresolve</b>      | function   | <b>wildcardpattern</b>          | function   |
| <b>resolve</b>           | function   |                                 |            |

## sandbox (context)

|                         |          |
|-------------------------|----------|
| <b>disablelibraries</b> | function |
| <b>disablerunners</b>   | function |
| <b>enable</b>           | function |
| <b>filehandlerone</b>   | function |
| <b>filehandlertwo</b>   | function |
| <b>finalizer</b>        | function |
| <b>getrunner</b>        | function |
| <b>initializer</b>      | function |
| <b>iohandler</b>        | function |
| <b>logcalls</b>         | function |
| <b>logfiles</b>         | function |
| <b>original</b>         | function |
| <b>overload</b>         | function |

|                          |          |
|--------------------------|----------|
| <b>possiblepath</b>      | function |
| <b>redefine</b>          | function |
| <b>register</b>          | function |
| <b>registerbinary</b>    | function |
| <b>registerlibrary</b>   | function |
| <b>registerroot</b>      | function |
| <b>registerrunner</b>    | function |
| <b>report</b>            | function |
| <b>setfilenamelogger</b> | function |
| <b>setlogger</b>         | function |
| <b>setreporter</b>       | function |
| <b>settrace</b>          | function |
| <b>validfilename</b>     | function |

# scripts (context)

|                                     |            |                             |
|-------------------------------------|------------|-----------------------------|
| <b>autofontfeature</b>              | table      | N inter_char_stretch_factor |
| F disable                           |            | N inter_word_stretch_factor |
| F enable                            |            | <b>handlers</b>             |
| F handler                           |            | data table                  |
| <b>categorytonumber</b>             | data table | <b>hash</b>                 |
| <b>colors</b>                       | data table | table                       |
| <b>decomposehangul</b>              | function   | <b>injectors</b>            |
| <b>defaults</b>                     | table      | data table                  |
| N inter_char_half_shrink_factor     |            | <b>installdataset</b>       |
| N inter_char_half_stretch_factor    |            | function                    |
| N inter_char_hangul_penalty         |            | <b>installmethod</b>        |
| N inter_char_quarter_shrink_factor  |            | function                    |
| N inter_char_quarter_stretch_factor |            | <b>numbertocategory</b>     |
| N inter_char_shrink_factor          |            | data table                  |
|                                     |            | <b>numbertodataset</b>      |
|                                     |            | data table                  |
|                                     |            | <b>numbertohandler</b>      |
|                                     |            | data table                  |
|                                     |            | <b>reset</b>                |
|                                     |            | function                    |
|                                     |            | <b>set</b>                  |
|                                     |            | function                    |
|                                     |            | <b>splitters</b>            |
|                                     |            | data table                  |

## set (context)

**contains**    function

**create**     function

**tolist**     function

**tonumber**   function

**totable**    function



## sio (context)

|                      |          |
|----------------------|----------|
| <b>read2dot14</b>    | function |
| <b>readbytes</b>     | function |
| <b>readbytetable</b> | function |
| <b>readcardinal1</b> | function |
| <b>readcardinal2</b> | function |
| <b>readcardinal3</b> | function |
| <b>readcardinal4</b> | function |

|                     |          |
|---------------------|----------|
| <b>readfixed2</b>   | function |
| <b>readfixed4</b>   | function |
| <b>readinteger1</b> | function |
| <b>readinteger2</b> | function |
| <b>readinteger3</b> | function |
| <b>readinteger4</b> | function |

# socket (extra lua)

|                       |          |                             |
|-----------------------|----------|-----------------------------|
| <b>BLOCKSIZE</b>      | number   | S cc                        |
| <b>_DATAGRAMSIZE</b>  | number   | S comments                  |
| <b>_DEBUG</b>         | boolean  | S connection                |
| <b>_SETSIZE</b>       | number   | S content-description       |
| <b>_SOCKETINVALID</b> | number   | S content-disposition       |
| <b>bind</b>           | function | S content-encoding          |
| <b>choose</b>         | function | S content-id                |
| <b>connect</b>        | function | S content-language          |
| <b>connect4</b>       | function | S content-length            |
| <b>connect6</b>       | function | S content-location          |
| <b>dns</b>            | table    | S content-md5               |
| F getaddrinfo         |          | S content-range             |
| F gethostname         |          | S content-transfer-encoding |
| F getnameinfo         |          | S content-type              |
| F tohostname          |          | S cookie                    |
| F toip                |          | S date                      |
| <b>ftp</b>            | table    | S diagnostic-code           |
| S PASSWORD            |          | S dsn-gateway               |
| N TIMEOUT             |          | S etag                      |
| S USER                |          | S expect                    |
| F command             |          | S expires                   |
| F genericform         |          | S final-log-id              |
| F get                 |          | S final-recipient           |
| F open                |          | S from                      |
| F put                 |          | S host                      |
| <b>gettime</b>        | function | S if-match                  |
| <b>headers</b>        | table    | S if-modified-since         |
| T canonic             |          | S if-none-match             |
| S accept              |          | S if-range                  |
| S accept-charset      |          | S if-unmodified-since       |
| S accept-encoding     |          | S in-reply-to               |
| S accept-language     |          | S keywords                  |
| S accept-ranges       |          | S last-attempt-date         |
| S action              |          | S last-modified             |
| S age                 |          | S location                  |
| S allow               |          | S max-forwards              |
| S alternate-recipient |          | S message-id                |
| S arrival-date        |          | S mime-version              |
| S authorization       |          | S original-envelope-id      |
| S bcc                 |          | S original-recipient        |
| S cache-control       |          | S pragma                    |

S proxy-authenticate  
 S proxy-authorization  
 S range  
 S received  
 S received-from-mta  
 S references  
 S referer  
 S remote-mta  
 S reply-to  
 S reporting-mta  
 S resent-bcc  
 S resent-cc  
 S resent-date  
 S resent-from  
 S resent-message-id  
 S resent-reply-to  
 S resent-sender  
 S resent-to  
 S retry-after  
 S return-path  
 S sender  
 S server  
 S smtp-remote-recipient  
 S status  
 S subject  
 S te  
 S to  
 S trailer  
 S transfer-encoding  
 S upgrade  
 S user-agent  
 S vary  
 S via  
 S warning  
 S will-retry-until  
 S www-authenticate  
 S x-mailer

**http**                      **table**

N TIMEOUT  
 S USERAGENT  
 F genericform  
 F open  
 F request

**newtry**                      **function**

**protect**                      **function**  
**select**                      **function**  
**sink**                      **function**  
**sinkt**                      **table**

F close-when-done  
 F default  
 F http-chunked  
 F keep-open

**skip**                      **function**  
**sleep**                      **function**  
**smtp**                      **table**

S DOMAIN  
 N PORT  
 S SERVER  
 N TIMEOUT  
 S ZONE  
 F message  
 F open  
 F send

**source**                      **function**  
**sourcet**                      **table**

F by-length  
 F default  
 F http-chunked  
 F until-closed

**tcp**                      **function**  
**tcp4**                      **function**  
**tcp6**                      **function**  
**tp**                      **table**

N TIMEOUT  
 F connect

**try**                      **function**  
**udp**                      **function**  
**udp4**                      **function**  
**udp6**                      **function**  
**url**                      **table**

F absolute  
 F build  
 F build\_path  
 F escape  
 F parse  
 F parse\_path  
 F unescape

# sorters (context)

**basicsorter**      function

**comparers**        table

    F basic

**constants**        table

    S defaultdigits

    S defaultlanguage

    S defaultmethod

    N digitmaximum

    N digitoffset

    N ignoredoffset

    N replacementoffset

    T validmethods

        B ch

        B mc

        B mm

        B pc

    B pm

    B uc

    B zc

    B zm

**definitions**      data table

**firstofsplit**     function

**packch**            function

**packuc**            function

**setlanguage**      function

**sort**                function

**splitters**        table

    F utf

**strip**              function

**tracers**           data table

**update**            function

## statistics (context)

|                       |          |                      |          |
|-----------------------|----------|----------------------|----------|
| <b>checkfmtstatus</b> | function | <b>resettiming</b>   | function |
| <b>elapsed</b>        | function | <b>runtime</b>       | function |
| <b>elapsedindeed</b>  | function | <b>savefmtstatus</b> | function |
| <b>elapsedseconds</b> | function | <b>show</b>          | function |
| <b>elapsedtime</b>    | function | <b>starttiming</b>   | function |
| <b>enable</b>         | boolean  | <b>stoptiming</b>    | function |
| <b>formatruntime</b>  | function | <b>threshold</b>     | number   |
| <b>hastiming</b>      | function | <b>timed</b>         | function |
| <b>memused</b>        | function | <b>tracefunction</b> | function |
| <b>register</b>       | function |                      |          |

## status (basic tex)

**list** function

**resetmessages** function

**setexitcode** function

# storage (context)

|                   |          |                        |            |
|-------------------|----------|------------------------|------------|
| <b>allocate</b>   | function | <b>noftables</b>       | number     |
| <b>data</b>       | table    | <b>register</b>        | function   |
| <b>mark</b>       | function | <b>shared</b>          | data table |
| <b>marked</b>     | function | <b>storedfunctions</b> | data table |
| <b>max</b>        | number   | <b>strip</b>           | boolean    |
| <b>min</b>        | number   | <b>tofmodules</b>      | number     |
| <b>nofmodules</b> | number   | <b>toftables</b>       | number     |

## streams (context)

|                   |          |
|-------------------|----------|
| <b>collect</b>    | function |
| <b>disable</b>    | function |
| <b>enable</b>     | function |
| <b>flush</b>      | function |
| <b>initialize</b> | function |

|                    |          |
|--------------------|----------|
| <b>push</b>        | function |
| <b>start</b>       | function |
| <b>stop</b>        | function |
| <b>synchronize</b> | function |



## string (basic lua)

|                       |          |                        |          |
|-----------------------|----------|------------------------|----------|
| <b>autodouble</b>     | function | <b>quote</b>           | function |
| <b>autosingle</b>     | function | <b>quoted</b>          | function |
| <b>booleanstring</b>  | function | <b>rep</b>             | function |
| <b>byte</b>           | function | <b>replacenewlines</b> | function |
| <b>bytepairs</b>      | function | <b>reverse</b>         | function |
| <b>bytes</b>          | function | <b>split</b>           | function |
| <b>bytetable</b>      | function | <b>splitlines</b>      | function |
| <b>char</b>           | function | <b>splitup</b>         | function |
| <b>characterpairs</b> | function | <b>strip</b>           | function |
| <b>characters</b>     | function | <b>sub</b>             | function |
| <b>checkedsplit</b>   | function | <b>tformat</b>         | function |
| <b>collapsespaces</b> | function | <b>toHEX</b>           | function |
| <b>count</b>          | function | <b>toboollean</b>      | function |
| <b>dump</b>           | function | <b>tobytes</b>         | function |
| <b>escapedpattern</b> | function | <b>tocontext</b>       | function |
| <b>explode</b>        | function | <b>todec</b>           | function |
| <b>find</b>           | function | <b>todimen</b>         | function |
| <b>format</b>         | function | <b>tohex</b>           | function |
| <b>formatter</b>      | function | <b>tonodes</b>         | function |
| <b>formatters</b>     | function | <b>topattern</b>       | function |
| <b>fullstrip</b>      | function | <b>totable</b>         | function |
| <b>gmatch</b>         | function | <b>toutf</b>           | function |
| <b>gsub</b>           | function | <b>tracedchar</b>      | function |
| <b>is_boolean</b>     | function | <b>tracedchars</b>     | table    |
| <b>is_empty</b>       | function | <b>unpack</b>          | function |
| <b>itself</b>         | function | <b>unquote</b>         | function |
| <b>len</b>            | function | <b>unquoted</b>        | function |
| <b>limit</b>          | function | <b>upper</b>           | function |
| <b>longtostring</b>   | function | <b>utfcharacter</b>    | function |
| <b>lower</b>          | function | <b>utfcharacters</b>   | function |
| <b>match</b>          | function | <b>utflength</b>       | function |
| <b>nospaces</b>       | function | <b>utfpadd</b>         | function |
| <b>nspaces</b>        | table    | <b>utfpadding</b>      | function |
| <b>optionalquoted</b> | function | <b>utfvalue</b>        | function |
| <b>pack</b>           | function | <b>utfvalues</b>       | function |
| <b>packsize</b>       | function | <b>valid</b>           | function |

# structures (context)

|                   |          |                                      |
|-------------------|----------|--------------------------------------|
| <b>allocation</b> | function | F previous                           |
| <b>blocks</b>     | table    | F raw                                |
| D collected       |          | F record                             |
| F define          |          | F reset                              |
| F print           |          | F restart                            |
| F save            |          | F restore                            |
| F select          |          | F save                               |
| F setstate        |          | F set                                |
| D states          |          | F setlevel                           |
| D tobesaved       |          | F setoffset                          |
| <b>bookmarks</b>  | table    | F setown                             |
| T extras          |          | F setstate                           |
| F get             |          | F setvalue                           |
| F mergesections   |          | T specials                           |
| F register        |          | F userpage                           |
| F reset           |          | F subs                               |
| F tosections      |          | D tobesaved                          |
| F finalize        |          | F value                              |
| F flatten         |          | F way                                |
| F installhandler  |          | <b>currentsectionnumber</b> function |
| F merge           |          | <b>descriptions</b> table            |
| S method          |          | <b>documents</b> table               |
| F overload        |          | D data                               |
| F place           |          | F initialize                         |
| F register        |          | F preset                             |
| F setup           |          | F reset                              |
| <b>counters</b>   | table    | <b>floats</b> table                  |
| F add             |          | <b>formulas</b> table                |
| F analyze         |          | <b>helpers</b> table                 |
| F check           |          | F analyze                            |
| D collected       |          | F formulanumber                      |
| F compact         |          | F merged                             |
| F converted       |          | F page                               |
| F currentvalue    |          | F pageofinternal                     |
| D data            |          | F prefix                             |
| F define          |          | F prefixlastpage                     |
| F first           |          | F prefixpage                         |
| F get             |          | F simplify                           |
| F last            |          | F title                              |
| F next            |          | F touserdata                         |
| F prev            |          | <b>inserts</b> table                 |

|                   |              |                            |              |
|-------------------|--------------|----------------------------|--------------|
| D data            |              | F savedlistnumber          |              |
| F define          |              | F savedlistprefixednumber  |              |
| F getdata         |              | F savedlisttitle           |              |
| F getlocation     |              | D sectionblocks            |              |
| F getname         |              | F sectionnumber            |              |
| F getnumber       |              | F size                     |              |
| F setlocation     |              | F title                    |              |
| F setup           |              | D tobесaved                |              |
| D stored          |              | F userdata                 |              |
|                   |              | F uservalue                |              |
| <b>itemgroups</b> | <b>table</b> | <b>marks</b>               | <b>table</b> |
| <b>lists</b>      | <b>table</b> |                            |              |
| F addto           |              | D data                     |              |
| F analyze         |              | F define                   |              |
| B autoreorder     |              | F exists                   |              |
| D cached          |              | F fetch                    |              |
| D collected       |              | F fetchallmarks            |              |
| F discard         |              | F fetched                  |              |
| F enhance         |              | F fetchonemark             |              |
| T enhancers       |              | F fetchtwomarks            |              |
| F filter          |              | F get                      |              |
| F formulainumber  |              | F number                   |              |
| F getresult       |              | F relate                   |              |
| F groupindex      |              | F reset                    |              |
| F hasnumberdata   |              | F set                      |              |
| F haspagedata     |              | F show                     |              |
| F hastitledata    |              | F synchronize              |              |
| F iscached        |              | F title                    |              |
| D kinds           |              | T tracers                  |              |
| F label           |              | F showtable                |              |
| F location        |              | <b>notes</b>               | <b>table</b> |
| D names           |              | F check_spacing            |              |
| F number          |              | F checkpagechange          |              |
| D ordered         |              | F define                   |              |
| F page            |              | F doifonsamepageasprevious |              |
| F popnesting      |              | F get                      |              |
| F prefix          |              | F getdeltapage             |              |
| F prefixednumber  |              | F getinternal              |              |
| F prefixedpage    |              | F getn                     |              |
| F process         |              | F getstate                 |              |
| D pushed          |              | F hascontent               |              |
| F pushnesting     |              | F internal                 |              |
| F realpage        |              | F internalid               |              |
| F reordered       |              | F listindex                |              |
| T result          |              | T numbers                  |              |

- F ordered
- F postpone
- F resetpostponed
- F restore
- F save
- F setstate
- D states
- F store

## pages

- F analyze
- D collected
- F in\_body
- F is\_odd
- N nopages
- F number
- F on\_right
- F save
- D tobesaved

## table

## references

- F analyze
- F checkedfile
- F checkedfileorurl
- F checkedprogram
- F checkedrealpage
- F checkedurl
- D collected
- U componentsplitter
- F currentmetadata
- F currentorder
- D currentset
- F define
- D defined
- D derived
- F enableinteraction
- F enhance
- D executers
- F expandcurrent
- F export
- T files
  - T data
- F define
- F found
- F get
- F filter

## table

- F filterdefault
- D filters
- D flaginternals
- F from
- D functions
- F get
- F getcurrentmetadata
- F getcurrentprefixspec
- F getinnermethod
- F getinternalcachedlistreference
- F getinternallistreference
- F getinternalreference
- F getoutermethod
- D handlers
- F identify
- F import
- F inject
- F injectcurrentset
- S innermethod
- D internals
- F load
- F loadpresets
- F mark
- S outermethod
- D pages
- U prefixsplitter
- D productdata
- T programs
  - T data
- F define
- F get
- F realpageofpage
- U referencesplitter
- D referred
- F referredpage
- F registerfinalizer
- F registerinitializer
- F registerpage
- F reset
- D runners
- F set
- F setandgetattribute
- F setcomponent
- F setinternalreference

- F setlinkmethod
- F setnextinternal
- F setnextorder
- F setreferencerealpage
- D specials
- F splitcomponent
- F splitprefix
- F splitreference
- F synchronizepage
- T testrunners
  - F inner
  - F special
  - F special operation
  - F special operation with arguments
- T testspecials
  - F deltapage
  - F i
  - F internal
  - F page
  - F realpage
  - F section
  - F userpage
- D tobereferred
- D tobesaved
- D tracedpages
- T urls
  - T data
  - F define
  - F found
  - F get
  - F untex
- D usedinternals
- D usedviews
- F valid

## registers

- F analyze
- D collected
- F compare
- F define
- F enhance
- F extend
- F filter
- F filtercollected
- F finalize

## table

- F findinternal
- F flush
- F get
- F prepare
- F process
- F setmethod
- F sort
- F store
- D tobesaved
- F unique
- F userdata

## sections

- F autodepth
- F cct
- D collected
- F current
- F currentblock
- F currentid
- F currentlevel
- F currentsectionindex
- F depthnumber
- F finddata
- F findnumber
- F fullnumber
- F getcurrentlevel
- F getlevel
- F getnumber
- F internalreference
- D levelmap
- D levels
- F load
- F matchingtilldepth
- F numberatdepth
- F numbers
- F popblock
- F prefixedconverted
- F pushblock
- F register
- D registered
- F reportstructure
- F save
- T sectionblockdata
  - T bodypart
  - S bookmark

## table

|                   |              |                           |  |              |
|-------------------|--------------|---------------------------|--|--------------|
| F set             |              | <b>tags</b>               |  | <b>table</b> |
| F setblock        |              | F elementtag              |  |              |
| F setchecker      |              | F finishexport            |  |              |
| F setentry        |              | F getid                   |  |              |
| F setinitialblock |              | F getmetadata             |  |              |
| F setlevel        |              | F handler                 |  |              |
| F setnumber       |              | F initializeexport        |  |              |
| F structuredata   |              | D labels                  |  |              |
| F title           |              | F last                    |  |              |
| D tobesaved       |              | F lastinchain             |  |              |
| F typesetnumber   |              | F locatedtag              |  |              |
| F userdata        |              | T patterns                |  |              |
| B verbose         |              | U splitter                |  |              |
| <b>sets</b>       | <b>table</b> | D properties              |  |              |
| F define          |              | F registermetadata        |  |              |
| F get             |              | F restart                 |  |              |
| F getall          |              | F setaspect               |  |              |
| D setlist         |              | F setattributefield       |  |              |
| <b>specials</b>   | <b>table</b> | F setcombination          |  |              |
| D collected       |              | F setconstruct            |  |              |
| F retrieve        |              | F setfigure               |  |              |
| F store           |              | F sethighlight            |  |              |
| D tobesaved       |              | F setitem                 |  |              |
| <b>synonyms</b>   | <b>table</b> | F setitemgroup            |  |              |
| F analyzed        |              | F setlist                 |  |              |
| D collected       |              | F setnotation             |  |              |
| F compare         |              | F setnotationsymbol       |  |              |
| F define          |              | F setproperty             |  |              |
| F filter          |              | F setregister             |  |              |
| F finalize        |              | F setsorting              |  |              |
| F flush           |              | F setsynonym              |  |              |
| F isshown         |              | F settablecell            |  |              |
| F isused          |              | F settabulatecell         |  |              |
| F meaning         |              | F settagdelimitedsymbol   |  |              |
| F prepare         |              | F settagsubsentencesymbol |  |              |
| F process         |              | F setuexport              |  |              |
| F register        |              | F setuserproperties       |  |              |
| F registershown   |              | D specifications          |  |              |
| F registerused    |              | F start                   |  |              |
| F resetshown      |              | F stop                    |  |              |
| F resetused       |              | F strip                   |  |              |
| F sort            |              | D taglist                 |  |              |
| F synonym         |              | T usewithcare             |  |              |
| D tobesaved       |              | T images                  |  |              |

## table (basic lua)

|                        |          |                             |          |
|------------------------|----------|-----------------------------|----------|
| <b>allkeys</b>         | function | <b>print</b>                | function |
| <b>append</b>          | function | <b>remove</b>               | function |
| <b>are_equal</b>       | function | <b>reverse</b>              | function |
| <b>collapsed</b>       | function | <b>reversed</b>             | function |
| <b>collapsedhash</b>   | function | <b>save</b>                 | function |
| <b>compact</b>         | function | <b>sequenced</b>            | function |
| <b>concat</b>          | function | <b>serialize</b>            | function |
| <b>contains</b>        | function | <b>setmetatablecall</b>     | function |
| <b>copy</b>            | function | <b>setmetatableindex</b>    | function |
| <b>count</b>           | function | <b>setmetatableindices</b>  | function |
| <b>derive</b>          | function | <b>setmetatablekey</b>      | function |
| <b>deserialize</b>     | function | <b>setmetatablenewindex</b> | function |
| <b>drop</b>            | function | <b>sort</b>                 | function |
| <b>fastcopy</b>        | function | <b>sorted</b>               | function |
| <b>fastserialize</b>   | function | <b>sortedhash</b>           | function |
| <b>filtered</b>        | function | <b>sortedhashkeys</b>       | function |
| <b>flattened</b>       | function | <b>sortedhashonly</b>       | function |
| <b>fromhash</b>        | function | <b>sortedindexonly</b>      | function |
| <b>getmetatablekey</b> | function | <b>sortedkeys</b>           | function |
| <b>has_one_entry</b>   | function | <b>sortedpairs</b>          | function |
| <b>hashed</b>          | function | <b>sparse</b>               | function |
| <b>identical</b>       | function | <b>strip</b>                | function |
| <b>imerge</b>          | function | <b>sub</b>                  | function |
| <b>imerged</b>         | function | <b>swapped</b>              | function |
| <b>insert</b>          | function | <b>tocontext</b>            | function |
| <b>is_empty</b>        | function | <b>tocsv</b>                | function |
| <b>is_simple_table</b> | function | <b>tofile</b>               | function |
| <b>keys</b>            | function | <b>tohandle</b>             | function |
| <b>load</b>            | function | <b>tohash</b>               | function |
| <b>loweredkeys</b>     | function | <b>toxml</b>                | function |
| <b>merge</b>           | function | <b>twowaymapper</b>         | function |
| <b>merged</b>          | function | <b>unique</b>               | function |
| <b>mirrored</b>        | function | <b>unnest</b>               | function |
| <b>move</b>            | function | <b>unpack</b>               | function |
| <b>pack</b>            | function | <b>values</b>               | function |
| <b>prepend</b>         | function |                             |          |

## tex (basic tex)

|                                 |            |                            |                     |
|---------------------------------|------------|----------------------------|---------------------|
| <b>attribute</b>                | table      | <b>getmuglue</b>           | function            |
| <b>badness</b>                  | function   | <b>getmuskip</b>           | function            |
| <b>box</b>                      | table      | <b>getnest</b>             | function            |
| <b>catcode</b>                  | table      | <b>getsfcode</b>           | function            |
| <b>conditionals</b>             | data table | <b>getskip</b>             | function            |
| <b>constants</b>                | data table | <b>gettoks</b>             | function            |
| <b>count</b>                    | table      | <b>getuccode</b>           | function            |
| <b>cprint</b>                   | function   | <b>glue</b>                | table               |
| <b>ctdcatcodes</b>              | number     | <b>hashtokens</b>          | function            |
| <b>ctxcatcodes</b>              | number     | <b>ifs</b>                 | data table          |
| <b>definefont</b>               | function   | <b>inimatcodes</b>         | number              |
| <b>delcode</b>                  | table      | <b>init_rand</b>           | function            |
| <b>dimen</b>                    | table      | <b>isattribute</b>         | function            |
| <b>directives</b>               | data table | <b>isbox</b>               | function            |
| <b>enableprimitives</b>         | function   | <b>iscount</b>             | overloaded function |
| <b>error</b>                    | function   | <b>isdefined</b>           | function            |
| <b>extraprimitives</b>          | function   | <b>isdimen</b>             | overloaded function |
| <b>finish</b>                   | function   | <b>ismuskip</b>            | overloaded function |
| <b>fontidentifier</b>           | function   | <b>isskip</b>              | overloaded function |
| <b>fontname</b>                 | function   | <b>istoken</b>             | function            |
| <b>force_synctex_line</b>       | function   | <b>istoks</b>              | function            |
| <b>force_synctex_tag</b>        | function   | <b>lccode</b>              | table               |
| <b>fprint</b>                   | function   | <b>linebreak</b>           | function            |
| <b>get</b>                      | function   | <b>lists</b>               | table               |
| <b>get_synctex_line</b>         | function   | <b>lua_math_random</b>     | function            |
| <b>get_synctex_mode</b>         | function   | <b>lua_math_randomseed</b> | function            |
| <b>get_synctex_tag</b>          | function   | <b>luacatcodes</b>         | number              |
| <b>getattribute</b>             | function   | <b>mathcode</b>            | table               |
| <b>getbox</b>                   | function   | <b>modes</b>               | data table          |
| <b>getboxresourcedimensions</b> | function   | <b>muglue</b>              | table               |
| <b>getcatcode</b>               | function   | <b>muskip</b>              | table               |
| <b>getcount</b>                 | function   | <b>nest</b>                | table               |
| <b>getdelcode</b>               | function   | <b>nilcatcodes</b>         | number              |
| <b>getdelcodes</b>              | function   | <b>normal_rand</b>         | function            |
| <b>getdimen</b>                 | function   | <b>notcatcodes</b>         | number              |
| <b>getglue</b>                  | function   | <b>number</b>              | function            |
| <b>getlccode</b>                | function   | <b>primitives</b>          | function            |
| <b>getlist</b>                  | function   | <b>print</b>               | function            |
| <b>getmath</b>                  | function   | <b>prtcacodes</b>          | number              |
| <b>getmathcode</b>              | function   | <b>resetparagraph</b>      | function            |
| <b>getmathcodes</b>             | function   | <b>romannumeral</b>        | function            |



|                             |          |                         |            |
|-----------------------------|----------|-------------------------|------------|
| <b>round</b>                | function | <b>setuccode</b>        | function   |
| <b>run</b>                  | function | <b>sfcode</b>           | table      |
| <b>saveboxresource</b>      | function | <b>shipout</b>          | function   |
| <b>scale</b>                | function | <b>show_context</b>     | function   |
| <b>scantoks</b>             | function | <b>skip</b>             | table      |
| <b>set</b>                  | function | <b>sp</b>               | function   |
| <b>set_synctex_line</b>     | function | <b>splitbox</b>         | function   |
| <b>set_synctex_mode</b>     | function | <b>sprint</b>           | function   |
| <b>set_synctex_no_files</b> | function | <b>systemmodes</b>      | data table |
| <b>set_synctex_tag</b>      | function | <b>takebox</b>          | function   |
| <b>setattribute</b>         | function | <b>texcatcodes</b>      | number     |
| <b>setbox</b>               | function | <b>toks</b>             | table      |
| <b>setcatcode</b>           | function | <b>tpacatcodes</b>      | number     |
| <b>setcount</b>             | function | <b>tpbcacodes</b>       | number     |
| <b>setdelcode</b>           | function | <b>tprint</b>           | function   |
| <b>setdimen</b>             | function | <b>trackers</b>         | data table |
| <b>setglue</b>              | function | <b>triggerbuildpage</b> | function   |
| <b>setlccode</b>            | function | <b>txtcatcodes</b>      | number     |
| <b>setlist</b>              | function | <b>type</b>             | function   |
| <b>setmath</b>              | function | <b>uccode</b>           | table      |
| <b>setmathcode</b>          | function | <b>uniform_rand</b>     | function   |
| <b>setmuglue</b>            | function | <b>uniformdeviate</b>   | function   |
| <b>setmuskip</b>            | function | <b>uprint</b>           | function   |
| <b>setnest</b>              | function | <b>useboxresource</b>   | function   |
| <b>setsfcode</b>            | function | <b>vrbcacodes</b>       | number     |
| <b>setskip</b>              | function | <b>write</b>            | function   |
| <b>settoks</b>              | function |                         |            |

## texconfig (basic tex)

|                        |                     |                       |                   |
|------------------------|---------------------|-----------------------|-------------------|
| <b>error_line</b>      | number              | <b>max_print_line</b> | number            |
| <b>expand_depth</b>    | number              | <b>max_strings</b>    | number            |
| <b>formatname</b>      | string              | <b>nest_size</b>      | number            |
| <b>half_error_line</b> | number              | <b>param_size</b>     | number            |
| <b>hash_extra</b>      | number              | <b>save_size</b>      | number            |
| <b>init</b>            | overloaded function | <b>shell_escape</b>   | string            |
| <b>kpse_init</b>       | boolean             | <b>stack_size</b>     | overloaded number |
| <b>max_in_open</b>     | number              |                       |                   |

## texio (basic tex)

**setescape** function

**write** function

**write\_nl** function

## token (basic tex)

|                       |          |
|-----------------------|----------|
| <b>create</b>         | function |
| <b>get_active</b>     | function |
| <b>get_cmdname</b>    | function |
| <b>get_command</b>    | function |
| <b>get_csname</b>     | function |
| <b>get_expandable</b> | function |
| <b>get_id</b>         | function |
| <b>get_index</b>      | function |
| <b>get_macro</b>      | function |
| <b>get_meaning</b>    | function |
| <b>get_mode</b>       | function |
| <b>get_next</b>       | function |
| <b>get_protected</b>  | function |
| <b>get_tok</b>        | function |

|                     |          |
|---------------------|----------|
| <b>is_token</b>     | function |
| <b>put_next</b>     | function |
| <b>scan_code</b>    | function |
| <b>scan_csname</b>  | function |
| <b>scan_dimen</b>   | function |
| <b>scan_glue</b>    | function |
| <b>scan_int</b>     | function |
| <b>scan_keyword</b> | function |
| <b>scan_string</b>  | function |
| <b>scan_token</b>   | function |
| <b>scan_toks</b>    | function |
| <b>scan_word</b>    | function |
| <b>set_macro</b>    | function |
| <b>type</b>         | function |

# tokens (context)

**astable**      function  
**bgroup**      userdata  
**bits**        table

N active  
N alignment  
N begingroup  
N character  
N close  
N comment  
N endgroup  
N endofline  
N escape  
N ignore  
N invalid  
N letter  
N mathshift  
N open  
N other  
N parameter  
N space  
N subscript  
N superscript  
N whitespace

**collectors** table

T data  
F defaultwords  
F dowithwords  
F flush  
F install  
F register  
T registered  
F show  
F test

**compile**      function

**constant**    function

**converters** table

S toboolean  
S todimen  
S toglue  
S tonumber  
S tostring

**defined**      function  
**egroup**      userdata  
**getters**      table

F box  
F count  
F dimen  
F glue  
F macro  
F meaning  
F skip  
F token

**hbox**        userdata

**istoken**      function

**letter**       function

**letters**      function

**other**        function

**pickup**       function

**printlist**    function

**scanners**    table

F boolean  
F code  
F conditional  
F count  
F csname  
F dimen  
F dimension  
F glue  
F integer  
F keyword  
F list  
F lxmlid  
F number  
F scanclose  
F scanopen  
F skip  
F string  
F token  
F tokens  
F toks  
F word

**scantable**    function

## setters table

F box  
F count  
F dimen  
F glue  
F macro  
F skip

## shortcuts table

T bits  
N active  
N alignment  
N begingroup  
N character  
N close  
N comment  
N endgroup  
N endofline  
N escape  
N ignore  
N invalid  
N letter  
N mathshift  
N open  
N other  
N parameter  
N space  
N subscript  
N superscript  
N whitespace  
N close  
F inspect  
N open  
F report  
F scanboolean  
F scanclose  
F scancode  
F scanconditional  
F scancsname  
F scandimen  
F scandimension  
F scaninteger  
F scankeyword  
F scanlist  
T scanners

F boolean  
F code  
F conditional  
F count  
F csname  
F dimen  
F dimension  
F glue  
F integer  
F keyword  
F list  
F lxmlid  
F number  
F scanclose  
F scanopen  
F skip  
F string  
F token  
F tokens  
F toks  
F word  
F scannumber  
F scanopen  
F scanstring  
F scanword  
F toboolean  
F todimen  
T tokens  
F astable  
U bgroup  
T collectors  
F defaultwords  
F dowithwords  
F flush  
F install  
F register  
F show  
F test  
F compile  
F constant  
T converters  
S toboolean  
S todimen  
S toglue

|             |                   |          |
|-------------|-------------------|----------|
| S tonumber  | N close           |          |
| S tostring  | F inspect         |          |
| F defined   | N open            |          |
| U egroup    | F report          |          |
| T getters   | F scanboolean     |          |
| F box       | F scanclose       |          |
| F count     | F scancode        |          |
| F dimen     | F scanconditional |          |
| F glue      | F scanscname      |          |
| F macro     | F scandimen       |          |
| F meaning   | F scandimension   |          |
| F skip      | F scaninteger     |          |
| F token     | F scankeyword     |          |
| U hbox      | F scanlist        |          |
| F istoken   | F scannumber      |          |
| F letter    | F scanopen        |          |
| F letters   | F scanstring      |          |
| F other     | F scanword        |          |
| F pickup    | F toboolean       |          |
| F printlist | F todimen         |          |
| F scantable | F tonumber        |          |
| T setters   | F tostring        |          |
| F box       | U vbox            |          |
| F count     | U vtop            |          |
| F dimen     | F tonumber        |          |
| F glue      | F tostring        |          |
| F macro     | <b>vbox</b>       | userdata |
| F skip      | <b>vtop</b>       | userdata |
| T shortcuts |                   |          |

# tracers (context)

|                  |          |                     |          |
|------------------|----------|---------------------|----------|
| <b>count</b>     | function | <b>primitive</b>    | function |
| <b>cs</b>        | function | <b>printerror</b>   | function |
| <b>dimen</b>     | function | <b>printwarning</b> | function |
| <b>knownlist</b> | function | <b>showlines</b>    | function |
| <b>lists</b>     | table    | <b>strings</b>      | table    |
| T context        |          | S undefined         |          |
| T internals      |          | <b>toks</b>         | function |
| T scratch        |          | <b>type</b>         | function |
| <b>name</b>      | function |                     |          |



## trackers (context)

|                       |            |                 |          |
|-----------------------|------------|-----------------|----------|
| <b>data</b>           | data table | <b>register</b> | function |
| <b>default</b>        | function   | <b>report</b>   | function |
| <b>disable</b>        | function   | <b>reset</b>    | function |
| <b>dumphashtofile</b> | function   | <b>savehash</b> | function |
| <b>enable</b>         | function   | <b>show</b>     | function |
| <b>list</b>           | function   | <b>value</b>    | function |
| <b>name</b>           | string     |                 |          |

# typesetters (context)

|                       |       |                   |                  |
|-----------------------|-------|-------------------|------------------|
| <b>alignments</b>     | table |                   | T handlers       |
| F handler             |       |                   | F installhandler |
| F set                 |       |                   | F processmath    |
| <b>breakpoints</b>    | table |                   | F set            |
| F define              |       |                   | F setcolor       |
| F handler             |       |                   | F setmath        |
| D mapping             |       |                   | F tomode         |
| T methods             |       | <b>firstlines</b> | table            |
| T numbers             |       | T actions         |                  |
| F set                 |       | F default         |                  |
| F setreplacement      |       | F line            |                  |
| <b>cases</b>          | table | F word            |                  |
| T actions             |       | F handler         |                  |
| F handler             |       | F set             |                  |
| F register            |       | <b>fontkerns</b>  | table            |
| F set                 |       | F handler         |                  |
| <b>characteralign</b> | table | <b>initials</b>   | table            |
| F handler             |       | T actions         |                  |
| F resetcharacteralign |       | F default         |                  |
| F setcharacteralign   |       | F addanchortoline |                  |
| <b>characters</b>     | table | F addtoline       |                  |
| F handler             |       | F calculatedelta  |                  |
| T methods             |       | F checkline       |                  |
| F replacenbsp         |       | F handler         |                  |
| F replacenspaces      |       | F moveinline      |                  |
| <b>checkers</b>       | table | F normalize       |                  |
| F handler             |       | F set             |                  |
| F reset               |       | <b>injectors</b>  | table            |
| F set                 |       | F check           |                  |
| <b>cleaners</b>       | table | T list            |                  |
| F handler             |       | F mark            |                  |
| F set                 |       | F reset           |                  |
| <b>digits</b>         | table | F set             |                  |
| T actions             |       | F show            |                  |
| F handler             |       | <b>italics</b>    | table            |
| F set                 |       | F enablemath      |                  |
| <b>directions</b>     | table | F enabletext      |                  |
| F getfences           |       | F forcevariant    |                  |
| F getglobal           |       | F handler         |                  |
| F getmethod           |       | F reset           |                  |
| F handler             |       | F set             |                  |

## **kerns**                      table

D factors  
F handler  
F keepligature  
B keptogether  
D mapping  
F set

## **manipulators**            table

F apply  
F applyspecification  
T methods  
F Word  
F Words  
F abbreviatedjournal  
F expandedjournal  
F lowercase  
F stripperperiod  
F uppercase  
T patterns  
U list  
U pair  
F splitspecification

## **margins**                      table

F finalhandler  
F globalhandler  
F localhandler  
F save

## **marksuspects**            function

## **paragraphs**              table

F addanchortoline  
F addtoline  
F calculatedelta  
F checkline  
F handler  
F moveinline  
F normalize  
F set

## **periodkerns**            table

D factors  
F handler  
D mapping  
F set

## **processors**                table

F apply  
F register  
F reset  
F split  
F startapply  
F stopapply  
F stripped  
F toString

## **rubies**                      table

F attach  
F check

## **showsuspects**            function

## **spacings**                      table

F define  
F handler  
D mapping  
T numbers  
T frenchpunctuation  
T characters  
S name  
N number

F reset  
F set  
F setup

## **wrappers**                      table

F handler

## **xtables**                      table

F cleanup  
F construct  
F create  
F finish\_row  
F flush  
F initialize\_construct  
F initialize\_reflow\_height  
F initialize\_reflow\_width  
F next\_row  
F reflow\_height  
F reflow\_width  
F set\_construct  
F set\_reflow\_height  
F set\_reflow\_width

# unicode (extra lua)

## ascii table

F byte  
F char  
F dump  
F find  
F format  
F gfind  
F gmatch  
F gsub  
F len  
F lower  
F match  
F rep  
F reverse  
F sub  
F upper

## grapheme table

F byte  
F char  
F dump  
F find  
F format  
F gfind  
F gmatch  
F gsub  
F len  
F lower  
F match  
F rep  
F reverse  
F sub  
F upper

## latin1 table

F byte  
F char  
F dump  
F find  
F format  
F gfind  
F gmatch  
F gsub

F len  
F lower  
F match  
F rep  
F reverse  
F sub  
F upper

## toutf32string function

## utf8 table

F byte  
F char  
F characters  
F chrln  
F count  
F dump  
F filetype  
F find  
F format  
F gfind  
F gmatch  
F gsub  
F is\_valid  
F len  
F length  
F lower  
F magic  
F match  
F remapper  
F rep  
F replacer  
F reverse  
F split  
F splitlines  
F sub  
F substituter  
F tocodes  
F toeight  
F toentities  
F tostring  
F totable  
F upper

|                      |                      |
|----------------------|----------------------|
| F ustring            | F utf32_to_utf8_le_t |
| F utf16_to_utf8_be   | F utf32_to_utf8_t    |
| F utf16_to_utf8_be_t | F utf8_to_utf16      |
| F utf16_to_utf8_le   | F utf8_to_utf16_be   |
| F utf16_to_utf8_le_t | F utf8_to_utf16_le   |
| F utf16_to_utf8_t    | F utf8_to_utf8_t     |
| F utf32_to_utf8_be   | F values             |
| F utf32_to_utf8_be_t | F xstring            |
| F utf32_to_utf8_le   |                      |

## url (context)

|                  |          |
|------------------|----------|
| <b>addscheme</b> | function |
| <b>barepath</b>  | function |
| <b>construct</b> | function |
| <b>escape</b>    | function |
| <b>filename</b>  | function |
| <b>hashed</b>    | function |

|                    |          |
|--------------------|----------|
| <b>hascheme</b>    | function |
| <b>query</b>       | function |
| <b>split</b>       | function |
| <b>toquery</b>     | function |
| <b>unescapeget</b> | function |

## utf8 (context)

|                    |          |
|--------------------|----------|
| <b>char</b>        | function |
| <b>charpattern</b> | string   |
| <b>codepoint</b>   | function |

|               |          |
|---------------|----------|
| <b>codes</b>  | function |
| <b>len</b>    | function |
| <b>offset</b> | function |

# utilities (context)

## debugger table

- F disable
- F enable
- F savestats
- F showstats
- F showtraceback

## files table

- F close
- F getposition
- F getsize
- F look
- F open
- F read2dot14
- F readbyte
- F readbytes
- F readbytetable
- F readcardinal
- F readcardinal1
- F readcardinal2
- F readcardinal2le
- F readcardinal3
- F readcardinal3le
- F readcardinal4
- F readcardinal4le
- F readchar
- F readfixed2
- F readfixed4
- F readinteger
- F readinteger1
- F readinteger2
- F readinteger2le
- F readinteger3
- F readinteger3le
- F readinteger4
- F readinteger4le
- F readsignedbyte
- F readstring
- F readtag
- F setposition
- F size
- F skip

- F skiplong
- F skipposition
- F skipshort
- F writebyte
- F writecardinal2
- F writecardinal4
- F writestring

## formatters table

- F formatcolumns
- F list
- F stripzeros

## garbagecollector table

- F check
- N criterium
- B enabled

## lua table

- B alwaysstripcode
- F checkmemory
- F compile
- F loadedluacode
- F loadstring
- F loadstripped
- N nofstrippedbytes
- N nofstrippedchunks
- F registerfinalizer
- B stripcode
- T strippedchunks
- F strippedloadstring
- T suffixes
- S lua
- S luc
- S lui
- S luj
- S luv
- S tma
- S tmc
- S tua
- S tuc

## packers table

- F hashed
- F new



|                                             |              |                                 |                 |
|---------------------------------------------|--------------|---------------------------------|-----------------|
| F pack                                      |              | F settings_to_array_obey_fences |                 |
| F simplehashed                              |              | F settings_to_array_with_repeat |                 |
| F strip                                     |              | F settings_to_hash              |                 |
| F unpack                                    |              | F settings_to_hash_strict       |                 |
| N version                                   |              | F settings_to_hash_tolerant     |                 |
| <b>parsers</b>                              | <b>table</b> | F settings_to_numbers           |                 |
| F add_settings_to_array                     |              | F settings_to_set               |                 |
| F arguments_to_table                        |              | F simple_hash_to_string         |                 |
| F array_to_string                           |              | F splitmethod                   |                 |
| F csvsplitter                               |              | F splitthousands                |                 |
| F getparameters                             |              | F stepper                       |                 |
| F groupedsplitat                            |              | F stripped_settings_to_array    |                 |
| F hash_to_string                            |              | F unittotex                     |                 |
| T hashes                                    |              | F unittoxml                     |                 |
| T settings_to_set                           |              | <b>randomizer</b>               | <b>table</b>    |
| T max,fit,broad,auto                        |              | F get                           |                 |
| B auto                                      |              | F getnumber                     |                 |
| B broad                                     |              | F getseed                       |                 |
| B fit                                       |              | F popseed                       |                 |
| B max                                       |              | F pushseed                      |                 |
| T text,hidden,paper,page,leftpage,rightpage |              | F reuseseed                     |                 |
| B hidden                                    |              | F setseed                       |                 |
| B leftpage                                  |              | F setseedi                      |                 |
| B page                                      |              | <b>report</b>                   | <b>function</b> |
| B paper                                     |              | <b>sequencers</b>               | <b>table</b>    |
| B rightpage                                 |              | F appendaction                  |                 |
| B text                                      |              | F appendgroup                   |                 |
| F iterator                                  |              | F compile                       |                 |
| F keq_to_hash                               |              | F disableaction                 |                 |
| F listitem                                  |              | F disablegroup                  |                 |
| F make_settings_to_hash_pattern             |              | F enableaction                  |                 |
| F mergehashes                               |              | F enablegroup                   |                 |
| F options_to_array                          |              | D functions                     |                 |
| F options_to_hash                           |              | F localize                      |                 |
| T patterns                                  |              | F new                           |                 |
| U settings_to_array                         |              | F nodeprocessor                 |                 |
| U settings_to_hash_a                        |              | F prependaction                 |                 |
| U settings_to_hash_b                        |              | F prependgroup                  |                 |
| U settings_to_hash_c                        |              | F removeaction                  |                 |
| U unittotex                                 |              | F replaceaction                 |                 |
| F process_stripped_settings                 |              | F setkind                       |                 |
| F rfc4180splitter                           |              | F tostring                      |                 |
| F runtime                                   |              | <b>setters</b>                  | <b>table</b>    |
| F settings_to_array                         |              | F disable                       |                 |

|                       |              |
|-----------------------|--------------|
| F enable              |              |
| F initialize          |              |
| F list                |              |
| F new                 |              |
| F register            |              |
| F report              |              |
| F reset               |              |
| F show                |              |
| <b>stacker</b>        | <b>table</b> |
| F new                 |              |
| <b>storage</b>        | <b>table</b> |
| F allocate            |              |
| F checked             |              |
| F mark                |              |
| F marked              |              |
| F setinitializer      |              |
| F sparse              |              |
| <b>streams</b>        | <b>table</b> |
| F close               |              |
| F getposition         |              |
| F look                |              |
| F open                |              |
| F read2dot14          |              |
| F read2dot4           |              |
| F readbyte            |              |
| F readbytes           |              |
| F readbytetable       |              |
| F readcardinal        |              |
| F readcardinal1       |              |
| F readcardinal2       |              |
| F readcardinal2LE     |              |
| F readcardinal3       |              |
| F readcardinal3le     |              |
| F readcardinal4       |              |
| F readchar            |              |
| F readfixed2          |              |
| F readfixed4          |              |
| F readinteger         |              |
| F readinteger1        |              |
| F readinteger2        |              |
| F readinteger2le      |              |
| F readinteger3        |              |
| F readinteger3le      |              |
| F readinteger4        |              |
| F readinteger4le      |              |
| F readsignedbyte      |              |
| F readstring          |              |
| F setposition         |              |
| F size                |              |
| F skip                |              |
| F skipbytes           |              |
| F skiplong            |              |
| F skipshort           |              |
| <b>strings</b>        | <b>table</b> |
| F collapsecrlf        |              |
| T formatters          |              |
| F add                 |              |
| F new                 |              |
| F newcollector        |              |
| F newrepeater         |              |
| F nice                |              |
| T striplinepatterns   |              |
| U collapse            |              |
| U prune               |              |
| U prune and collapse  |              |
| U prune and no empty  |              |
| U retain              |              |
| U retain and collapse |              |
| U retain and no empty |              |
| F striplines          |              |
| F striplong           |              |
| F tabtospace          |              |
| T tracers             |              |
| <b>tables</b>         | <b>table</b> |
| F accesstable         |              |
| F definedtable        |              |
| F definetable         |              |
| F encapsulate         |              |
| F insertaftervalue    |              |
| F insertbeforevalue   |              |
| F migratetable        |              |
| F removevalue         |              |
| F replacevalue        |              |
| <b>templates</b>      | <b>table</b> |
| F load                |              |
| F replace             |              |
| F replacer            |              |
| F resolve             |              |

## vf (context)

|               |          |
|---------------|----------|
| <b>char</b>   | function |
| <b>down</b>   | function |
| <b>fontid</b> | function |
| <b>image</b>  | function |
| <b>node</b>   | function |
| <b>nop</b>    | function |

|                |          |
|----------------|----------|
| <b>pop</b>     | function |
| <b>push</b>    | function |
| <b>right</b>   | function |
| <b>rule</b>    | function |
| <b>special</b> | function |

## visualizers (context)

|                              |            |                        |            |
|------------------------------|------------|------------------------|------------|
| <b>escapepatterns</b>        | data table | <b>signal</b>          | string     |
| <b>getspecification</b>      | function   | <b>signalpattern</b>   | userdata   |
| <b>getvisualizer</b>         | function   | <b>specifications</b>  | data table |
| <b>load</b>                  | function   | <b>visualize</b>       | function   |
| <b>makenested</b>            | function   | <b>visualizebuffer</b> | function   |
| <b>makepattern</b>           | function   | <b>visualizefile</b>   | function   |
| <b>newgrammar</b>            | function   | <b>visualizestring</b> | function   |
| <b>newhandler</b>            | function   | <b>write</b>           | function   |
| <b>parsedxml</b>             | function   | <b>writeargument</b>   | function   |
| <b>pattern</b>               | function   | <b>writedefault</b>    | function   |
| <b>register</b>              | function   | <b>writeemptyline</b>  | function   |
| <b>registerescapecommand</b> | function   | <b>writenewline</b>    | function   |
| <b>registerescapepline</b>   | function   | <b>writespace</b>      | function   |
| <b>registerescapepattern</b> | function   |                        |            |

# xml (context)

|                                    |                     |
|------------------------------------|---------------------|
| <b>addentitiesdoctype</b>          | function            |
| <b>addspecialcode</b>              | function            |
| <b>after</b>                       | function            |
| <b>all</b>                         | function            |
| <b>applylpath</b>                  | function            |
| <b>applyselector</b>               | function            |
| <b>assign</b>                      | function            |
| <b>attribute</b>                   | function            |
| <b>badinclusions</b>               | function            |
| <b>before</b>                      | function            |
| <b>body</b>                        | function            |
| <b>builtinentities</b>             | table               |
| B amp                              |                     |
| B apos                             |                     |
| B gt                               |                     |
| B lt                               |                     |
| B quot                             |                     |
| <b>cdata</b>                       | function            |
| <b>cdatatotext</b>                 | function            |
| <b>checkbom</b>                    | function            |
| <b>checkerror</b>                  | function            |
| <b>checknamespace</b>              | function            |
| <b>checkns</b>                     | function            |
| <b>cleansed</b>                    | function            |
| <b>collect</b>                     | function            |
| <del><b>collect_elements</b></del> | <del>function</del> |
| <b>collect_tags</b>                | function            |
| <del><b>collect_texts</b></del>    | <del>function</del> |
| <b>collected</b>                   | function            |
| <b>collecttexts</b>                | function            |
| <b>content</b>                     | function            |
| <b>convert</b>                     | function            |
| <b>copy</b>                        | function            |
| <b>count</b>                       | function            |
| <b>cprint</b>                      | function            |
| <b>css</b>                         | table               |
| F applyselector                    |                     |
| F colorspecification               |                     |
| F dimension                        |                     |
| F fontspecification                |                     |
| F padding                          |                     |

|                                  |                     |
|----------------------------------|---------------------|
| <b>defaulthandlers</b>           | table               |
| D file                           |                     |
| D parsedxml                      |                     |
| D string                         |                     |
| D tex                            |                     |
| D texline                        |                     |
| D texspace                       |                     |
| D verbose                        |                     |
| <b>defaultprotocol</b>           | string              |
| <b>delete</b>                    | function            |
| <del><b>delete_element</b></del> | <del>function</del> |
| <del><b>despecialized</b></del>  | <del>function</del> |
| <b>each</b>                      | function            |
| <del><b>each_element</b></del>   | <del>function</del> |
| <b>elements</b>                  | function            |
| <b>elementtocdata</b>            | function            |
| <b>empty</b>                     | function            |
| <b>entities</b>                  | data table          |
| <b>erase</b>                     | function            |
| <b>errorhandler</b>              | function            |
| <b>escaped</b>                   | function            |
| <b>expressions</b>               | table               |
| F boolean                        |                     |
| F child                          |                     |
| F contains                       |                     |
| F count                          |                     |
| F error                          |                     |
| F find                           |                     |
| F idstring                       |                     |
| F lower                          |                     |
| F name                           |                     |
| F number                         |                     |
| F oneof                          |                     |
| F print                          |                     |
| F quit                           |                     |
| F tag                            |                     |
| F text                           |                     |
| F undefined                      |                     |
| F upper                          |                     |
| <b>fillin</b>                    | function            |
| <b>filter</b>                    | function            |

## finalizers

F paragraphs  
T tex  
F all  
F attribute  
F chainattribute  
F chainpath  
F command  
F concat  
F concatrange  
F context  
F count  
F ctxtext  
F default  
F first  
F function  
F index  
F last  
F lettered  
F lower  
F lowerall  
F match  
F name  
F position  
F reverse  
F stripped  
F tag  
F tags  
F text  
F upper  
F upperall  
T xml  
F all  
F att  
F attribute  
F attributes  
F cdata  
F chainattribute  
F count  
F default  
F elements  
F empty  
F first  
F function

## table

F index  
F last  
F lowerall  
F match  
F name  
F position  
F reverse  
F table  
F tag  
F tags  
F text  
F texts  
F upperall

|                              |          |
|------------------------------|----------|
| <b>first</b>                 | function |
| <b>found</b>                 | function |
| <b>functions</b>             | table    |
| <b>getbuffer</b>             | function |
| <b>gethandlers</b>           | function |
| <b>gethandlersfunction</b>   | function |
| <b>helpers</b>               | table    |
| F recursetext                |          |
| <b>include</b>               | function |
| <b>inclusion</b>             | function |
| <b>inclusions</b>            | function |
| <b>index</b>                 | function |
| <b>inheritedconvert</b>      | function |
| <b>inject</b>                | function |
| <b>inject_element</b>        | function |
| <b>inject_element_after</b>  | function |
| <b>inject_element_before</b> | function |
| <b>injectafter</b>           | function |
| <b>injectbefore</b>          | function |
| <b>insert</b>                | function |
| <b>insert_element</b>        | function |
| <b>insert_element_after</b>  | function |
| <b>insert_element_before</b> | function |
| <b>insertafter</b>           | function |
| <b>insertbefore</b>          | function |
| <b>insertcdata</b>           | function |
| <b>insertcomment</b>         | function |
| <b>inspect</b>               | function |
| <b>is_valid</b>              | function |
| <b>kind</b>                  | function |
| <b>last</b>                  | function |

|                           |          |                            |          |
|---------------------------|----------|----------------------------|----------|
| <b>lastmatch</b>          | function | <b>replace</b>             | function |
| <b>load</b>               | function | <b>replace_element</b>     | function |
| <b>lpath</b>              | function | <b>resetinjectors</b>      | function |
| <b>lpathcached</b>        | function | <b>resolvens</b>           | function |
| <b>lpathcalls</b>         | function | <b>root</b>                | function |
| <b>lshow</b>              | function | <b>save</b>                | function |
| <b>makestandalone</b>     | function | <b>selection</b>           | function |
| <b>match</b>              | function | <b>separate</b>            | function |
| <b>name</b>               | function | <b>serialize</b>           | function |
| <b>newhandlers</b>        | function | <b>serializetotext</b>     | function |
| <b>nodesettostring</b>    | function | <b>setcdata</b>            | function |
| <b>originalload</b>       | function | <b>setcomment</b>          | function |
| <b>package</b>            | function | <b>sethandlersfunction</b> | function |
| <b>parent</b>             | function | <b>setinjectors</b>        | function |
| <b>parsedentitylpeg</b>   | userdata | <b>setproperty</b>         | function |
| <b>pihandlers</b>         | table    | <b>settings</b>            | function |
| F injector                |          | <b>specialcodes</b>        | table    |
| F tex                     |          | S "                        |          |
| <b>placeholders</b>       | table    | S #                        |          |
| F unknown_any_entity      |          | S \$                       |          |
| F unknown_dec_entity      |          | S %                        |          |
| F unknown_hex_entity      |          | S &                        |          |
| <b>popmatch</b>           | function | S '                        |          |
| <b>position</b>           | function | S <                        |          |
| <b>privatecodes</b>       | table    | S >                        |          |
| <b>privatetoken</b>       | function | S \                        |          |
| <b>process</b>            | function | S {                        |          |
| <b>process_attributes</b> | function | S                          |          |
| <b>process_elements</b>   | function | S }                        |          |
| <b>processattributes</b>  | function | S ~                        |          |
| <b>profiled</b>           | table    | <b>specialhandler</b>      | table    |
| <b>pushmatch</b>          | function | <b>sprint</b>              | function |
| <b>raw</b>                | function | <b>string</b>              | function |
| <b>registerentity</b>     | function | <b>strip</b>               | function |
| <b>registers</b>          | function | <b>strip_whitespace</b>    | function |
| <b>reindex</b>            | function | <b>stripelement</b>        | function |
| <b>remap_name</b>         | function | <b>stripleadingspaces</b>  | function |
| <b>remap_namespace</b>    | function | <b>table</b>               | function |
| <b>remap_tag</b>          | function | <b>text</b>                | function |
| <b>remapname</b>          | function | <b>textonly</b>            | function |
| <b>remapnamespace</b>     | function | <b>texttocdata</b>         | function |
| <b>remaptag</b>           | function | <b>tocdata</b>             | function |
| <b>renamespace</b>        | function | <b>toelement</b>           | function |
| <b>reparsedentitylpeg</b> | userdata | <b>tostring</b>            | function |

|                            |          |                      |          |
|----------------------------|----------|----------------------|----------|
| <b>totable</b>             | function | <b>unprivatized</b>  | function |
| <b>toxml</b>               | function | <b>unspecialized</b> | function |
| <b>tprint</b>              | function | <b>withelement</b>   | function |
| <b>traverse</b>            | function | <b>withelements</b>  | function |
| <b>unescaped</b>           | function | <b>wrap</b>          | function |
| <b>unescapedentitylpeg</b> | userdata | <b>xmlns</b>         | table    |



## zip (extra lua)

**archives**

table

**close**

function

**closearchive**

function

**open**

overloaded function

**openarchive**

function

**openfile**

function

**registeredfiles**

table

**type**

function

## zlib (extra lua)

|                    |          |
|--------------------|----------|
| <b>adler32</b>     | function |
| <b>compress</b>    | function |
| <b>compressobj</b> | function |
| <b>crc32</b>       | function |

|                      |          |
|----------------------|----------|
| <b>decompress</b>    | function |
| <b>decompressobj</b> | function |
| <b>version</b>       | function |