MP attributes backends bit bit32 blobs boolean buffers builders caches 🕶 callbacks catcodes characters chemistry commands containers context converters coroutine ctxrunner debug dir directives document documentdata environment epdf experiments figures **file** floats fontloader fonts functions global graphics gsubfeatures gzip immg interactions interfaces io jit job lang languages layouts lfs libraries lmx logs lpdf lpeg ltn12 lua luatex lxml math mathematics mbox md5 metapost mime moduledata modules mp mplib noads node nodes number objects os package pagebuilders parametersets pdfscanner physics profiler publications regimes resolvers sandbox scripts set socket sorters statistics status storage streams string structures table thirddata tokens tracers trackers typesetters unicode url userdata utilities vf visualizers xml zip zlib

# ConT<sub>E</sub>Xt MkIV

## global (alias: \_G)

| MP                       | table          | floats       | table                |
|--------------------------|----------------|--------------|----------------------|
| LUAVERSION               | number         | font         | table                |
| _LUAVERSION MAJORVERSION | number         | fontloader   | table                |
| _MINORVERSION            | number         | fonts        | table                |
| _                        | table          | frozen       | boolean              |
| arg                      | function       | functions    | table                |
| assert<br>attributes     | table          | qcinfo       | function             |
|                          |                | •            |                      |
| backends<br>bit          | table          | getfenv      | function             |
| bit32                    | table<br>table | getmetatable | function<br>function |
|                          |                | getpos       |                      |
| blobs                    | table          | getvpos      | function             |
| boolean                  | table          | global       | table                |
| buffers                  | table          | graphics     | table                |
| builders                 | table          | gsubfeatures | table                |
| caches                   | table          | gzip         | table                |
| callback                 | table          | img          | table                |
| callbacks                | table          | inspect      | function             |
| catcodes                 | table          | interactions | table                |
| chained_contextchain     | function       | interfaces   | table                |
| characters               | table          | io           | table                |
| chemistry                | table          | ipairs       | function             |
| collectgarbage           | function       | jit          | table                |
| commands                 | table          | job          | table                |
| containers               | table          | lang         | table                |
| context                  | function       | languages    | table                |
| converters               | table          | layouts      | table                |
| coroutine                | table          | lfs          | table                |
| ctxrunner                | table          | libraries    | table                |
| debug                    | table          | lmx          | table                |
| dimen                    | function       | load         | function             |
| dir                      | table          | loadfile     | function             |
| directives               | table          | loadstring   | function             |
| document                 | table          | logs         | table                |
| documentdata             | table          | lpdf         | table                |
| dofile                   | function       | lpeg         | table                |
| environment              | table          | ltn12        | table                |
| epdf                     | table          | lua          | table                |
| error                    | function       | luatex       | table                |
| experiments              | table          | lxml         | table                |
| figures                  | table          | m            | string               |
| file                     | table          | math         | table                |

mathematics table table mhox md5 table table metapost mime table module function moduledata table modules table mp table mplib table function newproxy function next noads table node table table nodes number table objects table oldtoken number optionalrequire function os table package table pagebuilders table function pairs table parametersets pcall function pdf table pdfscanner table table physics function print profiler table publications table rawequal function function rawget rawlen function rawset function regimes table require function resolvers table resolvestoredfunction function sandbox table scripts table select function set table setfenv function

setinspector setmetatable socket sorters statistics status storage streams string structures swialib table tex texconfig texio thirddata toboolean tokens tonumber tostring tracers trackers type typesetters unicode unpack url userdata utf utilities νf visualizers xml xpcall zip zlib

function function table table table table table table table table function table table table table table function table function function table table function table table function table table table table table table table function table table

## attributes (context)

| colorintents table        | [ montions      |            |
|---------------------------|-----------------|------------|
|                           | F mpoptions     |            |
| N attribute               | U none          |            |
| D data                    | F popset        |            |
| F enable                  | F processcoloro | omponents  |
| F handler                 | F pushset       |            |
| F register                | F register      |            |
| D registered              | D registered    |            |
| colors table              | F registerspoto | olor       |
| N attribute               | F rgb           |            |
| F cmyk                    | F rgbtocmyk     |            |
| F cmyktogray              | F rgbtogray     |            |
| F cmyktorgb               | F rgbtohsv      |            |
| F colorcomponents         | N selector      |            |
| B couple                  | F setlist       |            |
| D data                    | F setmodel      |            |
| N default                 | F setpagecolorm | odel       |
| F defineintermediatecolor | D sets          |            |
| F definemultitonecolor    | F spec          |            |
| F defineprocesscolor      | F spot          |            |
| F definesimplegray        | F spotcolorname |            |
| F definespotcolor         | F spotcolorpare |            |
| F definetransparency      | F spotcolorvalu | e          |
| F enable                  | B supported     |            |
| F filter                  | F transparencyc | omponents  |
| F forcedmodel             | B triggering    |            |
| F forcesupport            | F usecolors     |            |
| F formatcolor             | F value         |            |
| F formatgray              | D values        |            |
| F getpagecolormodel       | B weightgray    |            |
| F gray                    | define          | function   |
| F graytohsv               | effects         | table      |
| F handler                 | N attribute     |            |
| F hsvtogray               | D data          |            |
| F hsvtorgb                | F enable        |            |
| F iccprofile              | F handler       |            |
| F isblack                 | F register      |            |
| N main                    | D registered    |            |
| S model                   | D values        |            |
| D models                  | handlers        | table      |
| F mpcolor                 | list            | data table |
| F mpnamedcolor            | names           | data table |

negatives table N attribute D data F enable F handler F register D registered F set numbers data table ofnode function private function public function restore function save function function showcurrent states table F disabletriggering F enabletriggering F finalize F initialize F process F selective F stacked F stacker function system transparencies table N attribute D data F enable F forcesupport F handler U none F register D registered B supported B triggering F value D values unsetvalue number viewerlayers table N attribute F cleanup

> D data F define

F definedlayoutcomponent F enable F forcesupport F handler B hasorder D listwise F register D registered F resolve\_begin F resolve end F resolve reset F resolve step D scopes F setfeatures F start F stop B supported D values

#### backends (context)

F getpos

codeinjections table F getpreviewfigure F boxresourcedimensions F getypos F hasmatrix F registerboxresource F restoreboxresource F insertrenderingwindow current strina F mergebookmarks defaults table F mergereferences T codeiniections F mergeviewerlayers F prerollreference F gethpos F presetsymbol F getmatrix F getpos F presetsymbollist F aetypos F processrendering F hasmatrix F registerdocumentcloseaction T nodeinjections F registerdocumentopenaction T registrations F registeredsymbol D tables F registerpagecloseaction install function F registerpageopenaction nodeinjections table F registersymbol F restore F setfieldcalculationset F save F setfigurealternative F transform F setfigurecolorspace nothina function F setfiguremask pdf table F setformat T codeiniections F setformsmethod F addbookmarks F setpagetransition F attachmentid F setupcanvas F clonefield F setupidentity F definefield F setxmpfile F definefieldset F startlaver F defineviewerlaver F startunicodetoactualtext F embedfile F stoplayer F enabletags F stopunicodetoactualtext F exportformdata F supportedformats F getbookmarks F unicodetoactualtext F getdefaultfieldvalue F useviewerlayer F getfieldcategory F validfield F getfieldset F validfieldcategory F getformatoption F validfieldset S comment F gethpos F getmatrix T nodeinjections F getoutputfilename 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 vfspecials

## registrations table tables table

#### bit (context)

```
arshift function
band
         function
bnot
         function
bor
         function
         function
bswap
bxor
         function
lshift
         function
rol
         function
         function
ror
rshift
         function
        function
tobit
         function
tohex
```

#### bit32 (basic lua)

```
arshift function
band
        function
bnot
       function
bor
       function
       function
btest
bxor
      function
extract function
lrotate function
lshift function
replace function
rrotate function
rshift function
```

## blobs (context)

| append     | function |
|------------|----------|
| dimensions | function |
| dispose    | function |
| new        | function |
| pack       | function |
| strdp      | function |
| strhd      | function |
| strht      | function |
| strwd      | function |
| tohpack    | function |
| tonodes    | function |
| tovpack    | function |
| write      | function |

## boolean (context)

tocontext function
tonumber function

### buffers (context)

append function assign function collectcontent function function erase function exists getcontent function getlines function loadcontent function parallel table

F define

F hassomecontent

F next
F place
F reset
F save

prepend function
raw function
undent function

#### builders (context)

#### kernel table profiling table F hyphenation F add F kerning F distance F ligaturing F fixedprofile F mlist\_to\_hlist F aet T originals F list F hyphenate F pagehandler F kerning F profilebox F ligaturing F set paragraphs table vspacing table T constructors F analyze N attribute D categories F define F collapsevbox F disable T data F enable D map F handler D skip T methods D snapmethods F basic F definesnapmethod F default B fixed F hpack F pagehandler F oneline F resetprevdepth D names F setmap D numbers F setskip F set F snapbox F start F tocategories F stop F tocategory T expansion F vboxhandler F trace F keeptogether F registertogether T solutions T splitters F define F optimize T registered F reset F set F split F start F stop F tag

### caches (context)

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

## callback (basic tex)

find function
list function

register overloaded function

### callbacks (context)

freeze function
known function
list data table
pop function
push function
register function
report function

### catcodes (context)

names data table
numbers data table
register function

## characters (context)

| activeoffset   | number     | lhash      | data table |
|----------------|------------|------------|------------|
| adobename      | function   | linebreaks | table      |
| bidi           | data table | S ai       |            |
| blockrange     | function   | S al       |            |
| blocks         | data table | S b2       |            |
| casemap        | table      | S ba       |            |
| categories     | data table | S bb       |            |
| category       | function   | S bk       |            |
| categorytags   | data table | S cb       |            |
| collapsed      | data table | S cj       |            |
| combined       | data table | S cl       |            |
| contextname    | function   | S cm       |            |
| csletters      | data table | S cp       |            |
| data           | data table | S cr       |            |
| decomposed     | data table | S ex       |            |
| description    | function   | S gl       |            |
| descriptions   | data table | S h2       |            |
| detailtags     | data table | S h3       |            |
| directions     | table      | S hl       |            |
| enccodes       | data table | S hy       |            |
| entities       | data table | S id       |            |
| fallbacks      | data table | S in       |            |
| filters        | data table | S is       |            |
| fractions      | table      | S jl       |            |
| fromnumber     | function   | S jt       |            |
| fschars        | data table | S jv       |            |
| fscodes        | data table | S lf       |            |
| getrange       | function   | S nl       |            |
| graphemes      | data table | S ns       |            |
| hangul         | data table | S nu       |            |
| initialize     | function   | S op       |            |
| is_character   | data table | S po       |            |
| is_command     | data table | S pr       |            |
| is_letter      | data table | S qu       |            |
| is_mark        | data table | S ri       |            |
| is_punctuation | data table | S sa       |            |
| is_spacing     | data table | S sg       |            |
| lcchars        | data table | S sp       |            |
| lccode         | function   | S sy       |            |
| lccodes        | data table | S wj       |            |
| lettered       | function   | S xx       |            |

| S | Z٧ |
|---|----|
|   |    |

function lower math table mathpairs data table mirrors table otfscripts data table data table ranges function registerentities remap hangul syllabe function setactivecatcodes function setlettercatcodes function shape function function shaped shash data table shchars data table data table shcodes function showstring **specialchars** data table specials data table

T char

splits

subscripts
superscripts
synonyms
tex
table
table
table

table

D accentmapping

D commandmapping

 ${\sf F} \ {\sf defineaccents}$ 

F safechar F toutf

F toutfpattern

table textclasses tonumber function ucchars data table uccode function uccodes data table uhash data table unicodechar function function upper

#### chemistry (context)

component function define function definitions data table format string inlinechemical function instance string method string molecule function moleculeparser userdata function start stop function structures number undefine function

## containers (context)

| cleanname | function |
|-----------|----------|
| content   | function |
| define    | function |
| is_usable | function |
| is_valid  | function |
| read      | function |
| usecache  | boolean  |
| write     | function |

### converters (context)

| A                  | function | lower             | function   |
|--------------------|----------|-------------------|------------|
| AK                 | function | maxchrs           | function   |
| Alphabetic         | function | minute            | function   |
| Character          | function | month             | function   |
| Characters         | function | nicenumber        | function   |
| Characters:es      | function | nofdays           | function   |
| I                  | function | number            | function   |
| KA                 | function | numbers           | function   |
| KR                 | function | octnumber         | function   |
| R                  | function | octstringtonumber | function   |
| RK                 | function | ordinal           | function   |
| Romannumerals      | function | r                 | function   |
| Sloviannumerals    | function | rawcharacter      | function   |
| Spanishnumerals    | function | romannumerals     | function   |
| Word               | function | second            | function   |
| Words              | function | sequences         | data table |
| a                  | function | sloviannumerals   | function   |
| abjadnodotnumerals | function | spanishnumerals   | function   |
| abjadnumerals      | function | textime           | function   |
| alphabetic         | function | toabjad           | function   |
| character          | function | tochinese         | function   |
| characters         | function | toroman           | function   |
| characters:es      | function | uchexnumber       | function   |
| chineseallnumerals | function | uchexnumbers      | function   |
| chinesecapnumerals | function | upper             | function   |
| chinesenumerals    | function | verbose           | table      |
| chr                | function | D data            |            |
| chrs               | function | F translate       |            |
| cn                 | function | weekday           | function   |
| cn-a               | function | word              | function   |
| cn-c               | function | words             | function   |
| convert            | function | year              | function   |
| decimals           | function |                   |            |
| define             | function |                   |            |
| hexstringtonumber  | function |                   |            |
| hour               | function |                   |            |
| i                  | function |                   |            |
| isleapyear         | function |                   |            |
| lchexnumber        | function |                   |            |
| lchexnumbers       | function |                   |            |
| leapyear           | function |                   |            |

## coroutine (basic lua)

```
create function
resume function
running function
status function
wrap function
yield function
```

### ctxrunner (context)

load function
preparedfile function
prepfiles data table
resolve function

## debug (basic lua)

| debug        | function |
|--------------|----------|
| getfenv      | function |
| gethook      | function |
| getinfo      | function |
| getlocal     | function |
| getmetatable | function |
| getregistry  | function |
| getupvalue   | function |
| getuservalue | function |
| setfenv      | function |
| sethook      | function |
| setlocal     | function |
| setmetatable | function |
| setupvalue   | function |
| setuservalue | function |
| traceback    | function |
| upvalueid    | function |
| upvaluejoin  | function |
|              |          |

## dir (context)

| collectpattern | function |
|----------------|----------|
| current        | function |
| expandname     | function |
| found          | function |
| glob           | function |
| globfiles      | function |
| globpattern    | function |
| ls             | function |
| makedirs       | function |
| mkdirs         | function |
| рор            | function |
| push           | function |

#### directives (context)

data data table default function disable function done table enable function list function string name register function report function reset function show function value function

#### document (context)

arguments data table
files table
getargument function
getfilename function
options table

T commandline

D environments

D modes

D modules

T ctxfile

D environments

D modes

D modules

setargument function setcommandline function setdefaultargument function setenvironments function setfilename function setfilenames function setmodes function setmodules function variables data table

#### environment (context)

function argument data table arguments data table basicengines currentrun number default texmfcnf strina definefilefallback function definefilesvnonvm function data table engineflags filename string files table filesvnonvms data table forcedruns number getargument function homedir strina initex boolean function *initializearguments* initializefilenames function inputfilebarename string inputfilename string inputfilesuffix string **jobfilename** string iobfilesuffix string kindofrun number 1 oadexamodes function loadluafile function luafile function luafilechunk function maxnofruns number data table originalarguments outputfilename string ownbin string ownmain string ownname string ownpath string boolean prerollrun data table rawarguments reconstructcommandline function relativepath function setargument function **splitarguments** function suffix string

texfile
texmfos
texos
texroot
truefilename
useluamodule
usemodules
validengines

function string string string function function function data table

#### epdf (extra tex)

Array function
Attribute function
AttributeOwner\_Type function
Attribute\_Type function
Dict function
Object function
PDFRectangle function
StructElement\_Type function

openMemStream
type function

#### experiments (context)

```
data
         data table
default
         function
disable
         function
enable
         function
list
         function
name
         string
register function
report
         function
reset
         function
         function
show
value
       function
```

#### figures (context)

applvratio badname bases bitmapimage boxnumber cachepaths check checkers converters current defaultdepth defaultheight defaultsearch defaultwidth done dummy existers exists formats found get getrealpage auess hash identifiers identify images F boxes

F check
F checksize
F clone
F copy
F immediatewrite
F keys
F new

F copy
F immediatewr:
F keys
F new
F node
F ofindex
F package
F print
F scan
F serialize

function function data table function number data table function data table data table function number number hool ean number function function data table function data table data table function function function function data table function

table

con
cable
con
cable
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cable
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cable
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cable
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cable
con
cable

F write include includers initialize loaded localpaths magics mergegoodies nofprocessed order paths patterns gog preferguality programs push registerpattern registerresource registersuffix resources scale set setlookups setorder setpaths suffixes used

F totable

F types

function data table function data table data table data table function number data table data table data table function boolean data table function function function function data table function function function function function data table data table

## file (basic lua)

| addsuffix         | function |
|-------------------|----------|
| basename          | function |
| checksum          | function |
| collapsepath      | function |
| copy              | function |
| dirname           | function |
| expandname        | function |
| extname           | function |
| is_qualified_path | function |
| is_readable       | function |
| is_rootbased_path | function |
| is_writable       | function |
| isreadable        | function |
| iswritable        | function |
| join              | function |
| joinpath          | function |
| loadchecksum      | function |
| nameonly          | function |
| nametotable       | function |
| needs_updating    | function |
| needsupdating     | function |
| pathpart          | function |
| readdata          | function |
| removesuffix      | function |
| replacesuffix     | function |
| reslash           | function |
| robustname        | function |
| savechecksum      | function |
| savedata          | function |
| size              | function |
| splitbase         | function |
| splitname         | function |
| splitpath         | function |
| strip             | function |
| suffix            | function |
| suffixes          | function |
| suffixesonly      | function |
| suffixonly        | function |
| syncmtimes        | function |
|                   |          |

## floats (context)

| analysemethod    | function |
|------------------|----------|
| checkedpagefloat | function |
| collect          | function |
| consult          | function |
| flush            | function |
| getvariable      | function |
| hasstacked       | function |
| nofstacked       | function |
| рор              | function |
| push             | function |
| resave           | function |
| save             | function |
| stacked          | function |

#### font (basic tex)

current function define function each function fonts table frozen function

getfont overloaded function

id function function max nextid function read tfm function read\_vf function

setfont overloaded function

#### fontloader (extra tex)

apply\_afmfile function
apply\_featurefile function
close function
fields function
fullinfo function

to\_table function
totable function

# fonts (context)

| analyzers         | table | F process                 |
|-------------------|-------|---------------------------|
| T features        |       | F registermain            |
| N blwf            |       | F report                  |
| N fina            |       | F reset                   |
| N half            |       | T vectors                 |
| N init            |       | constructors table        |
| N isol            |       | F addcoreunicodes         |
| N medi            |       | F aftercopyingcharacters  |
| N pref            |       | F applymanipulators       |
| N pstf            |       | F assignmathparameters    |
| N rphf            |       | B autocleanup             |
| D initializers    |       | F beforecopyingcharacters |
| D methods         |       | D cache                   |
| F setstate        |       | B cacheintex              |
| T states          |       | F calculatescale          |
| N blwf            |       | F checkedfeatures         |
| N fina            |       | F checkedfilename         |
| N half            |       | F checkvirtualids         |
| N init            |       | F cleanuptable            |
| N isol            |       | F collectprocessors       |
| N mark            |       | F currentfonthasfeature   |
| N medi            |       | D designsizes             |
| N pref            |       | D dontembed               |
| N pstf            |       | F enhanceparameters       |
| N rest            |       | N factor                  |
| N rphf            |       | F finalize                |
| B useunicodemarks |       | F getfeatureaction        |
| checkers          | table | F hashfeatures            |
| F getmissing      |       | F hashinstance            |
| F missing         |       | T hashmethods             |
| F placeholder     |       | F normal                  |
| cid               | table | F virtual                 |
| F getmap          |       | F initializefeatures      |
| F loadfile        |       | T keys                    |
| collections       | table | T character               |
| F checkenabled    |       | S depth                   |
| F clonevector     |       | S height                  |
| F define          |       | S italic                  |
| T definitions     |       | S width                   |
| F found           |       | T description             |
| F prepare         |       | T boundingbox             |

| S depth                  | S xheight          |          |
|--------------------------|--------------------|----------|
| S height                 | T properties       |          |
| S width                  | S autoitalicamo    | ount     |
| T parameters             | T cidinfo          |          |
| S ascender               | S embedding        |          |
| S descender              | S encodingbytes    | 5        |
| S designsize             | S filename         |          |
| T expansion              | S finalized        |          |
| S auto                   | S fontname         |          |
| S shrink                 | S format           |          |
| S step                   | S fullname         |          |
| S stretch                | S hasitalics       |          |
| S extendfactor           | S hasmath          |          |
| S factor                 | S mathitalics      |          |
| S hfactor                | S mode             |          |
| S mathsize               | S name             |          |
| T protrusion             | S noglyphnames     |          |
| S auto                   | S nostackmath      |          |
| S quad                   | S psname           |          |
| S scaledpoints           | S textitalics      |          |
| S scriptpercentage       | S virtualized      |          |
| S scriptscriptpercentage | D loadedfonts      |          |
| S size                   | S namemode         |          |
| S slantfactor            | F newfeatures      |          |
| S slantperpoint          | F newhandler       |          |
| T spacing                | N noffontsloaded   |          |
| S extra                  | N nofsharedfonts   |          |
| S shrink                 | N nofsharedhashes  |          |
| S stretch                | N nofsharedvectors |          |
| S width                  | N privateoffset    |          |
| T synonyms               | F readanddefine    |          |
| S em                     | F registerfeature  |          |
| S ex                     | B resolvevirtualto | 0        |
| S extra_space            | F scale            |          |
| S extraspace             | F scaled           |          |
| S slant                  | F setfactor        |          |
| S space                  | F setname          |          |
| S space_shrink           | B sharefonts       |          |
| S space_stretch          | F trytosharefont   |          |
| S spaceshrink            | N version          |          |
| S spacestretch           | current            | function |
| S x_height               | currentid          | function |
| S units                  | definers           | table    |
| S vfactor                | F addlookup        |          |
|                          |                    |          |

| F analysis   | N Engunillia  |
|--|---|
| F analyze  | N Encyrillic  |
| F applypostprocessors F checkedmode  | N Ercyrillic  |
|  | N Ereversedcyrillic   |
| F checkedscript  | N Escyrillic  |
| F current  | N Fitacyrillic  |
| S defaultlookup  | N Gcedilla  |
| F define   | N Gdot  |
| F getspecification   | N Gecyrillic  |
| F internal   | N Gheupturncyrillic   |
| Floadfont  | N Gjecyrillic   |
| F makespecification  | N Hardsigncyrillic  |
| T methods  | N IAcyrillic  |
| F install  | N IUcyrillic  |
| D variants   | N Icyrillic   |
| F read   | N Idot  |
| F register   | N Iecyrillic  |
| F registered   | N Iicyrillic  |
| F registersplit  | N Iishortcyrillic   |
| F resetnullfont  | N Iocyrillic  |
| F resolve  | N Izhitsacyrillic   |
| T resolvers  | N Jecyrillic  |
| F file   | N Kacyrillic  |
| F name   | N Kcedilla  |
|  |   |
| F spec   | N Khacyrillic   |
| F spec <b>definetypeface</b> function  | N Khacyrillic<br>N Kjecyrillic  |
|  |   |
| definetypeface function  | N Kjecyrillic   |
| definetypeface function encodings table  | N Kjecyrillic<br>N Lcedilla   |
| <pre>definetypeface function encodings table T agl</pre>   | N Kjecyrillic<br>N Lcedilla<br>N Ljecyrillic  |
| <pre>definetypeface function encodings table  T agl     D ctxcodes</pre>   | N Kjecyrillic<br>N Lcedilla<br>N Ljecyrillic<br>N Ncedilla  |
| definetypeface function encodings table  T agl D ctxcodes D extras   | N Kjecyrillic<br>N Lcedilla<br>N Ljecyrillic<br>N Ncedilla<br>N Njecyrillic   |
| definetypeface function encodings table  T agl D ctxcodes D extras D names   | N Kjecyrillic<br>N Lcedilla<br>N Ljecyrillic<br>N Ncedilla<br>N Njecyrillic<br>N Ocyrillic  |
| definetypeface function encodings table  T agl D ctxcodes D extras D names T synonyms  | N Kjecyrillic<br>N Lcedilla<br>N Ljecyrillic<br>N Ncedilla<br>N Njecyrillic<br>N Ocyrillic<br>N Odblacute   |
| definetypeface function table  T agl D ctxcodes D extras D names T synonyms N Acyrillic  | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm   |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic  | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic  |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot   | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic  |
| definetypeface function table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic  | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic   |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic N Decyrillic  | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic   |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic N Decyrillic N Djecyrillic  | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic N Softsigncyrillic  |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic N Decyrillic N Decyrillic N Decyrillic N Decyrillic N Decyrillic  | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic N Softsigncyrillic  |
| definetypeface function encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic N Decyrillic                 | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic N Softsigncyrillic N Tcedilla N Tecyrillic  |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Checyrillic N Decyrillic N Decyrillic N Decyrillic N Dzecyrillic N Dzecyrillic N Dzecyrillic N Dzecyrillic N Dzecyrillic N Dzecyrillic | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic N Shchacyrillic N Softsigncyrillic N Tcedilla N Tecyrillic                        |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic N Decyrillic N Djecyrillic N Dzecyrillic N Dzecyrillic N Dzhecyrillic N Ecyrillic N Ecyrillic                       | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic N Shchacyrillic N Toedilla N Tecyrillic N Tecyrillic N Tecyrillic                 |
| definetypeface encodings table  T agl D ctxcodes D extras D names T synonyms N Acyrillic N Becyrillic N Cdot N Checyrillic N Djecyrillic N Djecyrillic N Dzecyrillic N Dzhecyrillic N Edot N Efyrillic N Efcyrillic                            | N Kjecyrillic N Lcedilla N Ljecyrillic N Ncedilla N Njecyrillic N Ocyrillic N Odblacute N Ohm N Pecyrillic N Rcedilla N Shacyrillic N Shchacyrillic N Toedilla N Tecyrillic N Tecyrillic N Tsecyrillic N Tshecyrillic |

| N Vecyrillic   | N daletholam  |
|--|---|
| N Yatcyrillic  | N daletholamhebrew  |
| N Yericyrillic   | N daletpatah  |
| N Yicyrillic   | N daletpatahhebrew  |
| N Zdot   | N daletqamats   |
| N Zecyrillic   | N daletqamatshebrew   |
| N Zhecyrillic  | N daletqubuts   |
| N acutecmb   | N daletqubutshebrew   |
| N acyrillic  | N daletsegol  |
| N afii00208  | N daletsegolhebrew  |
| N afii08941  | N daletsheva  |
| N afii57694  | N daletshevahebrew  |
| N afii57695  | N dalettsere  |
| N afii57700  | N dammaarabic   |
| N afii57705  | N dammatanaltonearabic  |
| N afii57723  | N dargahebrew   |
| N alef   | N dbllowline  |
| N alefmaksurainitialarabic   | N decimalseparatorarabic  |
| N alefmaksuramedialarabic  | N dialytikatonos  |
| N approximatelyequal   | N dotbelowcmb   |
| N asteriskaltonearabic   | N doubleyodpatah  |
| N ayin   | N doubleyodpatahhebrew  |
| N bet  | N edot  |
| N betdagesh  | N eightarabic   |
| N blackdownpointingtriangle  | N of abthrotohoomed   |
| 3 3 3 3  | N eighthnotebeamed  |
| N blackleftpointingpointer   | N etnahtafoukhhebrew  |
|  | _   |
| N blackleftpointingpointer   | N etnahtafoukhhebrew  |
| N blackleftpointingpointer<br>N blackrectangle   | N etnahtafoukhhebrew<br>N etnahtafoukhlefthebrew  |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer  | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew   |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic   |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf  |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh   |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew  |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot  | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew N finalkafqamats   |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass  | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew N finalkafqamats   |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew N finalkafqamats N finalkafqamats  |
| N blackleftpointingpointer N blackrectangle N blacksightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh N dalet   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew N finalkafqamats N finalkafqamats N finalkafqamatshebrew N finalkafsheva N finalkafsheva   |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh N dalet N daletdagesh   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew N finalkafqamats N finalkafqamats N finalkafqamatshebrew N finalkafsheva N finalmem N finalnun                                     |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh N dalet N daletdagesh N dalethatafpatah   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafhebrew N finalkafqamats N finalkafqamats N finalkafqamatshebrew N finalkafsheva N finalmem N finalnun                                     |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh N dalet N daletdagesh N dalethatafpatah   | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafdebrew N finalkafqamats N finalkafqamats N finalkafqamatshebrew N finalkafsheva N finalmem N finalnun N finalpe N finaltsadi              |
| N blackleftpointingpointer N blackrectangle N blackrightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh N dalet N dalethatafpatah N dalethatafpatahhebrew N dalethatafsegol                                       | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafdebrew N finalkafqamats N finalkafqamats N finalkafqamatshebrew N finalkafsheva N finalmem N finalnun N finalpe N finaltsadi N fivearabic |
| N blackleftpointingpointer N blackrectangle N blacksightpointingpointer N blacksmilingface N blacksquare N blackuppointingtriangle N bulletinverse N cdot N compass N dagesh N dalet N daletdagesh N dalethatafpatah N dalethatafpatahhebrew N dalethatafsegol N dalethatafsegolhebrew | N etnahtafoukhhebrew N etnahtafoukhlefthebrew N etnahtahebrew N fathaarabic N finalkaf N finalkafdagesh N finalkafdebrew N finalkafqamats N finalkafqamatshebrew N finalkafsheva N finalmem N finalnun N finalpe N finaltsadi N fivearabic N forall         |

N gdot

N dalethiriqhebrew

N aimel N holam N holam19 N gimeldagesh N gravecmb N holam26 N haaltonearabic N holam32 N hamzaarabic N holamhebrew N hamzadammaarabic N holamnarrowhebrew N hamzadammatanarabic N holamquarterhebrew N hamzafathaarabic N ilde N hamzafathatanarahic N integralbottom N hamzalowarabic N integraltop N hamzalowkasraarabic N kaf N hamzalowkasratanarabic N kafdagesh N hatafpatah N kashidaautoarabic N hatafpatah16 N kashidaautonosidebearingarabic N hatafpatah23 N kcedilla N hatafpatah2f N lamed N hatafpatahhebrew N lameddagesh N hatafpatahnarrowhebrew N lamedhebrew N hatafpatahquarterhebrew N lamedholam N hatafgamats N lamedholamdagesh N hatafgamats1b N lamedholamdageshhebrew N hatafqamats28 N laminitialarabic N lammeemjeeminitialarabic N hatafgamats34 N hatafgamatshebrew N lcedilla N hatafqamatsnarrowhebrew N logicalnotreversed N hatafqamatsquarterhebrew N mahapakhhebrew N hatafsegol N mem N hatafsegol17 N memdagesh N hatafsegol24 N merkhahebrew N hatafsegol30 N merkhakefulahebrew N hatafsegolhebrew N middot N hatafsegolnarrowhebrew N munahhebrew N hatafsegolquarterhebrew N nbspace N he N ncedilla N hedagesh N newshegelsign N hehfinalalttwoarabic N ninearabic N het N noonhehinitialarabic N hiriq N nun N hiriq14 N nundagesh N hiria21 N odblacute N hiriq2d N onearabic N hiriqhebrew N overscore N hirignarrowhebrew N patah

N patah11

N hirigguarterhebrew

N patahld N aubuts N qubuts18 N patah2a N qubuts25 N patahhebrew N patahnarrowhebrew N qubuts31 N patahquarterhebrew N gubutshebrew N pe N gubutsnarrowhebrew N qubutsquarterhebrew N pedagesh N quoteleftreversed N gamats N gamats10 N rafe N rcedilla N gamatsla N gamats1c N reharabic N gamats27 N resh N gamats29 N reshhatafpatah N gamats33 N reshhatafpatahhebrew N gamatsde N reshhatafsegol N gamatshebrew N reshhatafsegolhebrew N gamatsnarrowhebrew N reshhebrew N gamatsgatanhebrew N reshhiriq N qamatsqatannarrowhebrew N reshhirighebrew N gamatsgatanguarterhebrew N reshholam N gamatsgatanwidehebrew N reshholamhebrew N gamatsquarterhebrew N reshpatah N reshpatahhebrew N qof N gofdagesh N reshgamats N qofhatafpatah N reshgamatshebrew N qofhatafpatahhebrew N reshaubuts N qofhatafsegol N reshqubutshebrew N qofhatafsegolhebrew N reshsegol N qofhebrew N reshsegolhebrew N gofhirig N reshsheva N gofhirighebrew N reshshevahebrew N qofholam N reshtsere N qofholamhebrew N reviahebrew N samekh N gofpatah N gofpatahhebrew N samekhdagesh N qofqamats N segol N gofgamatshebrew N segol13 N gofgubuts N segol1f N qofqubutshebrew N segol2c N qofsegol N segolhebrew N qofsegolhebrew N segolnarrowhebrew N gofsheva N segolquarterhebrew N qofshevahebrew N sevenarabic N goftsere N sfthyphen

| N | shaddaarabic             | N vavholam                         |            |
|---|--------------------------|------------------------------------|------------|
|   |                          | N vavholam<br>N yerahbenyomohebrew |            |
|   | sheya                    |                                    | ebrew      |
|   | sheva115                 | N yod                              |            |
|   |                          | N yoddagesh                        |            |
|   | sheva15                  | N zayin                            |            |
|   | sheva22                  | N zayindagesh                      |            |
|   | sheva2e                  | N zdot                             |            |
|   | shevahebrew              | N zeroarabic                       |            |
|   | shevanarrowhebrew        | D unicodes                         |            |
|   | shevaquarterhebrew<br>   | D cache                            |            |
|   | shin                     | F is_known                         |            |
|   | shindagesh               | D known                            |            |
|   | shindageshshindot        | F load                             |            |
|   | shindageshsindot         | F make_unicode_vect                | tor        |
|   | shinshindot              | D math                             |            |
|   | shinsindot               | N version                          |            |
|   | siluqhebrew              | enhanceid                          | function   |
|   | sixarabic                | expansions                         | data table |
|   | tav                      | formats                            | data table |
|   | tavdages                 | getalternate                       | function   |
|   | tavdagesh                | getdiscexpansion                   |            |
|   | tcedilla                 | getkern                            | function   |
| N | tchehinitialarabic       | getmultiple                        | function   |
| N | tet                      | getsubstitution                    | function   |
| N | tetdagesh                | <b>getters</b> table               |            |
| N | tevirhebrew              | T alternate                        |            |
| N | thousandsseparatorarabic | F opentype                         |            |
| N | threearabic              | T kern                             |            |
| N | tildecmb                 | F opentype                         |            |
| N | tipehahebrew             | F type1                            |            |
| N | tsadi                    | T multiple                         |            |
| N | tsadidagesh              | F opentype                         |            |
| N | tsere                    | T substitution                     |            |
| N | tsere12                  | F opentype                         |            |
| N | tserele                  | goodies                            | table      |
| N | tsere2b                  | D colorschemes                     |            |
| N | tserehebrew              | D data                             |            |
| N | tserenarrowhebrew        | D designsizes                      |            |
| N | tserequarterhebrew       | D filenames                        |            |
| N | twoarabic                | F getcompositions                  |            |
| N | udblacute                | T list                             |            |
| N | vav                      | F compositions                     |            |
| N | vavdagesh                | F designsizes                      |            |
| N | vavdagesh65              | F expansions                       |            |
|   |                          |                                    |            |

| F featureset       |         | F pair  |
|--------------------|---------|---|
| F filenames        |         | F substitution                                      |
| F files            |         | F register  |
| F mathematics      |         | S stepkey   |
| F protrusions      |         | F dataset   |
| F solutions        |         | S defaultbasealternate                              |
| F treatments       |         | S defaultnodealternate                              |
| F typefaces        |         | D enhancers   |
| F load             |         | D features  |
| F prepare_features | 5       | F getalternate                                      |
| F register         |         | F getgsub   |
| F registerpostprod | cessor  | F getkern   |
| F report           |         | F getmultiple                                       |
| handlers           | table   | F getsubstitution                                   |
| T afm              |         | T handlers  |
| B addkerns         |         | F devanagari_remove_joiners                         |
| B addligatures     |         | F devanagari_reorder_matras                         |
| B addtexligature   | 25      | F devanagari_reorder_pre_base_reordering_consonants |
| B autoprefixed     |         | F devanagari_reorder_reph                           |
| D cache            |         | F gpos_context                                      |
| D features         |         | F gpos_contextchain                                 |
| F getkern          |         | F gpos_cursive                                      |
| T helpdata         |         | F gpos_mark2base                                    |
| D bothkerned       |         | F gpos_mark2ligature                                |
| D leftkerned       |         | F gpos_mark2mark                                    |
| D ligatures        |         | F gpos_pair   |
| D rightkerned      |         | F gpos_single                                       |
| D texligatures     |         | F gsub_alternate                                    |
| F load             |         | F gsub_context                                      |
| F setfeatures      |         | F gsub_contextchain                                 |
| B syncspace        |         | F gsub_ligature                                     |
| N version          |         | F gsub_multiple                                     |
| T otf              |         | F gsub_reversecontextchain                          |
| F addfeature       |         | F gsub_single                                       |
| D cache            |         | F load  |
| F collectlookups   | :       | F packoutlines                                      |
| T coverup          |         | T readers   |
| T actions          |         | F addunicodetable                                   |
| F alternate        |         | D cache   |
| F chainpositi      |         | F cff   |
| F chainsubsti      | itution | F checkhash   |
| F kern             |         | F cmap  |
| F ligature         |         | F compact   |
| F multiple         |         | F expand  |
|                    |         |   |

| F gdef          | F skipshort         |
|-----------------|---------------------|
| F getinfo       | N tableversion      |
| F glyf          | F unpack            |
| F gpos          | N version           |
| F gsub          | F scriptandlanguage |
| F head          | F setdynamics       |
| F hhea          | F setfeatures       |
| F hmtx          | T statistics        |
| F kern          | D usedfeatures      |
| F loadfont      | T tables            |
| F loadshapes    | D baselines         |
| F loca          | D features          |
| F math          | D featuretypes      |
| F maxp          | D languages         |
| F name          | D scripts           |
| F os/2          | F unpackoutlines    |
| F pack          | N version           |
| F post          | T pfb               |
| F rehash        | T tfm               |
| T streamreader  | D features          |
| F close         | N maxnestingdepth   |
| F getposition   | N maxnestingsize    |
| F look          | F setfeatures       |
| F open          | N version           |
| F read2dot14    | T vf                |
| F readbyte      | T combinations      |
| F readbytes     | F combine           |
| F readcardinal  | T combiner          |
| F readcardinal1 | D commands          |
| F readcardinal2 | D helpers           |
| F readcardinal3 | D math              |
| F readcardinal4 | D predefined        |
| F readchar      | N version           |
| F readfixed4    | D whatever          |
| F readinteger   | <b>hashes</b> table |
| F readinteger1  | D characters        |
| F readinteger2  | D csnames           |
| F readinteger4  | D descriptions      |
| F readstring    | D dynamics          |
| F readtag       | D emwidths          |
| F setposition   | D exheights         |
| F size          | D extensibles       |
| F skip          | D features          |
| F skiplong      | D identifiers       |
|                 |                     |

| D italics                  |          | Fre    | eportusedfeatures | 5          |
|----------------------------|----------|--------|-------------------|------------|
| D lastmathids              |          | mappir | ngs               | table      |
| D marks                    |          | F ac   | ddtounicode       |            |
| D modes                    |          | F fi   | romunicode16      |            |
| D originals                |          | Flo    | oadfile           |            |
| D parameters               |          | Flo    | oadline           |            |
| T processes                |          | F ma   | akenameparser     |            |
| D properties               |          | D ov   | verloads          |            |
| D quads                    |          | Fre    | eset              |            |
| D resources                |          | F to   | ounicode          |            |
| T setdynamics              |          | F to   | ounicode16        |            |
| T shapes                   |          | F to   | ounicode16sequend | ce         |
| D spaces                   |          | metapo | ost               | table      |
| D spacings                 |          | F bo   | oundingbox        |            |
| D unicodes                 |          | F bo   | oxtomp            |            |
| D variants                 |          | F dı   | raw               |            |
| D xheights                 |          | F fi   | ill               |            |
| helpers                    | table    | F ma   | axbounds          |            |
| F addprivate               |          | Fou    | ıtput             |            |
| F dimenfactor              |          | F pa   | aths              |            |
| F expandglyph              |          |        | idthline          |            |
| F fontpatternhassi         | ze       | F ze   | eroline           |            |
| F getdigitwidth            |          | mp     |                   | table      |
| F getparameters            |          | D ca   | ache              |            |
| F getprivatenode           |          |        | nline             |            |
| F hasprivate               |          |        | ersion            |            |
| F indextoslot              |          | names  |                   | data table |
| F name                     |          | nullda |                   | data table |
| F nametoslot               |          | protru |                   | data table |
| F setdigitwidth            |          | reade  |                   | table      |
| F splitfontpattern         |          | F at   |                   |            |
| F tochar<br>infofont       | function |        | neck_lua          |            |
| iterators                  | table    |        | neck_tfm          |            |
|                            | table    | Fli    |                   |            |
| F characters               |          |        | pentype           |            |
| F descriptions             |          | F of   |                   |            |
| F glyphs<br><b>loggers</b> | table    | F pt   |                   |            |
| F add_placeholders         |          | F ti   | equence           |            |
| D category_to_place        |          | Fti    |                   |            |
| F format                   | CHOCUEI  | Ftt    |                   |            |
| F onetimemessage           |          | reser\ |                   | function   |
| F register                 |          | select |                   | table      |
| F reportdefinedfon         | ıts      | T da   |                   | -30 -0     |
| i reportuerineuron         | 11.3     | I Q    | icu               |            |

F define F definetypeface T fallbacks F filterinput T methods F default F features F file F goodies F name F selectfont F simplefonts F spec F style F registerfallback F searchfiles setdiscexpansion function specifiers table D contextmerged F contextnumber D contextnumbers D contextsetups F contexttostring F definecontext F mergecontext F presetcontext F registercontext F showcontext F splitcontext D synonyms D variants table symbols F uselibrary tables table tracers table treatments table F applyfixes D data S filename F ignoredfile F report F trace typefaces data table

# functions (context)

**dummy** function

### graphics (context)

#### backgrounds table

- F calculatemultipar
- F fetchmultipar
- F pair
- F path
- F point

### gsubfeatures (context)

```
anum
                   table
   T arab
    B dflt
    B urd
char-ligatures
                table
   T *
    B *
compat-ligatures table
   T *
    B *
tlig
                   table
   T *
                   table
trep
   T *
    B *
```

### gzip (extra lua)

```
close function
lines function
load function
open function
save function
suffix function
```

# img (basic tex)

| function |
|----------|
| 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
linkedlists data table
               table
pages
   F setpagetransition
   F setupcanvas
references
             table
   F setclosedocument
   F setclosepage
   F setopendocument
   F setopenpage
renderings
              data table
soundclips data table
```

# interfaces (context)

| addvalidkeys                        | function   | F MPrest                    |
|-------------------------------------|------------|-----------------------------|
| cachedsetups                        | data table | F MPrs                      |
| cachesetup                          | function   | F MPul                      |
| checkedspecification                | function   | F MPur                      |
| complete                            | data table | F MPw                       |
| constants                           | data table | F MPx                       |
| corenamespaces                      | data table | F MPxy                      |
| definecommand                       | function   | F MPxywhd                   |
| doifelsemessage                     | function   | F MPy                       |
| elements                            | data table | F Romannumerals             |
| formats                             | data table | F abjadnodotnumerals        |
| ${\tt getchecked} {\tt parameters}$ | function   | F abjadnumerals             |
| getmessage                          | function   | F addcounter                |
| hashedsetups                        | data table | F addfeature                |
| implement                           | function   | F addgrapheme               |
| interfacedcommand                   | function   | F addlinklistelement        |
| interfaces                          | table      | F addreplacements           |
| invalidkey                          | function   | F addtojavascriptpreamble   |
| message                             | function   | F addtolist                 |
| namespaces                          | table      | F addvalidinterfacekeys     |
| F define                            |            | F allinputpaths             |
| F list                              |            | F alphabetic                |
| registernamespace                   | function   | F analysefloatmethod        |
| scanners                            | table      | F analyzeitemgroup          |
| F Alphabetic                        |            | F analyzelist               |
| F Character                         |            | F analyzeregister           |
| F Characters                        |            | F applytobox                |
| F MPLIBconvertoutlinetex            | t          | F applytofirstcharacter     |
| F MPc                               |            | F assignbuffer              |
| F MPd                               |            | F autofinishstructurelevels |
| F MPh                               |            | F autonextspace             |
| F MPll                              |            | F autonextstructurelevel    |
| F MPlr                              |            | F autosetups                |
| F MPls                              |            | F autostarttext             |
| F MPn                               |            | F autostoptext              |
| F MPp                               |            | F averagecharwidth          |
| F MPpardata                         |            | F bitmapimage               |
| F MPplus                            |            | F boxtostring               |
| F MPpos                             |            | F bposcolumn                |
| F MPposset                          |            | F bposcolumnregistered      |
| F MPr                               |            | F btxabbreviatedjournal     |
|                                     |            |                             |

F btxaddentrv F htxsetdataset F btxaddjournal F btxsetentry F btxauthor F btxsetregister F btxauthorfield F btxsetspecification F btxauthortoregister F btxsingularorplural F btxcollectlistentries F btxtoregister F btxcurrentfirstnames F btxusedataset F btxcurrentinitials F btxuservariable F btxcurrentjuniors F huildtextaccent F btxcurrentsurnames F character F btxcurrentvons F characters F btxdetail F chardescription F btxdirect F checkcountersetup F btxdoif F checkedconversion F btxdoifelse F checkedpagefloat F btxdoifelsecombiinlist F checkiniector F btxdoifelsesameasprevious F checkinterfacechain F htxdoifelseuservariable F checktwopassdata F btxdoifnot F chemicalcomponent F btxexpandedjournal F chinesenumerals F btxfetchlistentries F cleanfontname F btxfield F cleanupbox F btxfieldname F cleanuplayers F btxfieldtype F clonefield F btxfirstofrange F collectfloat F htxflush F collecthelp F btxflushlistcombi F colorcomponents F btxflushlistentry F concatcommalist F btxflushmarked F consultfloat F btxflushpages F convertbtxdatasettoxml F btxfoundname F converteddimen F btxfoundtype F convertmpstopdf F htxhandlecite F copyposition F btxhandlenocite F cos F btxlastofrange F cosd F btxlistvariant F countervalue F btxloaddefinitionfile F counttwopassdata F btxloadjournallist F currentcomponent F btxloadreplacementfile F currentdate F btxoneorrange F currentdesignsize F btxpreparelistentries F currentenvironment F btxremapauthor F currentposthyphenchar F btxsavedataset F currentprehyphenchar

F currentproduct

F btxsavejournallist

F currentproject F defineprogram F currentreferenceorder F definereference F currentsectiontolist F defineregister F datasetvariable F definerule F dayname F definesectionlevels F decimals F defineselectfont F decrementcounter F defineshift F decrementedcounter F definesnapmethod F decrementsubcounter F definespotcolorglobal F defineaccents F definestructurehlock F defineattribute F definestructureset F definebreakpoint F definetransparency F definebreakpoints F definetwopasslist F definecharacterspacing F definetypeface F definechemical F defineviewerlaver F defineconversion F depthnumber F definecounter F digits\_normal F definedlayoutcomponent F digits reverse F definefallbackfamily F disableautofontscript F definefield F disabledirectives F definefieldset F disableexperiments F definefilefallback F disableiobsave F definefilesynonym F disableparbuilder F definefont\_one F disableregime F definefont two F disablespellchecking F definefontfamily F disablestatetriggering F definefontfeature F disablestream F definefontsolution F disabletrackers F definehyphenationfeatures F discardfromlist F defineinsertion F doanalyzeframedbox F defineintermediatecolor F doifcommon F definelabels F doifcounter F definelanguage F doifelseblack F definelinkedlist F doifelsebuffer F definemarking F doifelsecharinfont F definemetafont F doifelsecommon F definemultitonecolorglobal F doifelsecontinuewithfile F definenamespace F doifelseconverter F definenote F doifelsecounter F defineparallel F doifelsecurrentfonthasfeature F defineparbuilder F doifelsedrawingblack F defineprocesscolordummy F doifelsefieldcategory

F defineprocesscolorglobal F defineprocesscolorlocal

F doifelsefiledefined

F doifelsefileexist

F doifelsefirstchar F doifnoteonsamepageasprevious F doifelsefontpresent F doifnotinset F doifnotsame F doifelseinelement F doifelseinputfile F doifposition F doifelseinset F doifsame F doifelseintwopassdata F doprocesstypescriptfile F doifelseleapvear F doreshapeframedbox F doifelselisthasentry F dosavenosition F doifelselisthasnumher F dosavepositionplus F doifelselisthaspage F dosavepositionwhd F doifelselisthastitle F dosetposition F doifelselocfile F dosetpositionbox F doifelsemarking F dosetpositionplus F doifelsemessage F dosetpositionstrut F doifelseobject F dosetpositionwhd F doifelseobiectreference F dostarttextfile F doifelseolderversion F dostoptextfile F doifelseoverlapping F elapsedtime F doifelseparallel F enableasciimode F doifelseparentfile F enableautofences F doifelsepathexist F enableautofontscript F doifelseposition F enablebackgroundalign F enablebackgroundboxes F doifelsepositiononpage F enablecolor F doifelsepositionsonsamepage F doifelsepositionsonthispage F enablecolorintents F doifelsepositionsused F enablecrlf F enabledirectives F doifelserangeonpage F doifelsereference F enableexperiments F doifelserighttoleftinbox F enablefontcolorschemes F doifelsesame F enableinteraction F doifelsestackedfloats F enableparbuilder F doifelsesynonymshown F enableregime F doifelsesynonymused F enablerules F doifelseurldefined F enableshifts F doifelseutfmathabove F enablespellchecking F doifelseutfmathaccent F enablestatetriggering F doifelseutfmathbelow F enablestream F doifelseutfmathfiller F enabletrackers F doifelsevisualizer F enabletransparency F doiffieldsetelse F enableutf F doifinset F enhancelinkedlist F doifnotcommon F enhancelist F enhancereference F doifnotcounter F doifnotecontent F enhanceregister

F eposcolumnregistered F flushnotes F erasebuffer F flushpageinjectionsafter F flushpageinjectionsbefore F execute F expandcurrentreference F flushpostponedblocks F exportformdata F flushpostponednotes F exportreferences F flushstream F extendregister F flushstreamcopy F extensiblecode F fontchar F featureattribute F fontcharbyindex F featurelist F fontcollectionclone F feedback F fontcollectiondefine F fetchallmarks F fontcollectionprepare F fetchmultipar F fontcollectionregister F fetchmultishape F fontcollectionreport F fetchonemark F fontcollectionreset F fetchposboxes F fontlookupgetkey F fetchtwomarks F fontlookupgetkeyofindex F figure check F fontlookupinitialize F figure done F fontlookupnoffound F figure dummy F forceendiob F figure identify F forcequitiob F figure\_include F formatcolor F formatgray F figure mergegoodies F figure pop F from F figure push F aetbidimode F getbodyfontsizes F figure\_reset F figure scale F getbuffer F figurefilename F getbufferctxlua F figurefilepath F getbuffermkvi F figurefiletype F getcheckedinterfaceparameters F figurerequest F getcurrentprefixspec F figuresetdimensions F getcurrentreferencemetadata F figurestatus F getdefaultfieldvalue F figureused F getdocumentargument F filterdefaultreference F getdocumentfilename F filterreference F getelementtag F finalizebox F getfieldcategory F findtwopassdata F getfile F finishexport F getfirstcharacter F firstcountervalue F getfirsttwopassdata F firstinset F getfloatvariable F firstsubcountervalue F getfullstructurenumber F flushfloat F getinternallistreference

F flushlabeledfloat

F eposcolumn

F getlasttwopassdata F initializemathitalics F getmarking F initializestream F getmathdomain F initializetexdirectives F getmathitalics F initializetextrackers F getmessage F injectcurrentreference F getmpextensions F injectcurrentreferencehtdp F getmprandomnumber F injectreference F getnaturaldimensions F inlinechemical F getnotestate F inputfilebarename F getobjectdimensions F inputfilename F getobjectreference F inputfilerealsuffix F getobjectreferencepage F inputfilesuffix F getprivatechar F insertattachment F getprogram F insertcomment F getrandomdimen F insertfield F getrandomfloat F insertionnumber F getrandomnumber F insertrenderingwindow F getrandomseed F installedlanguages F installtexdirective F getreadfilename F getsomefullstructurenumber F installtextracker F getsomestructurenumber F iobfilename F getspecificstructuretitle F jobfilesuffix F languagenumber F getstructurelevel F lastcountervalue F getstructurenumber F getsubstring F lastsubcountervalue F gettexbuffer F 1chexnumber F lchexnumbers F gettwopassdata F gettwopassdatalist F leapyear F geturl F linenumbersstageone F getvisual F linenumbersstagetwo F hboxtovbox F listgroupindex F helpaction F listlahel F helpreference F listlocation F hexstringtonumber F listnamespaces F horizontalcode F listprefixednumber F hour F listprefixedpage F hyphenatedlist F listrealpage F hyphenatedurl F listsize F immediatemessage F listtitle F incrementcounter F listuserdata F incrementedcounter F loadexamodes F incrementsubcounter F loadfontgoodies F loadluamodule F initializejob F initializemathdomain F loadmapfile

F loadmapline F molecule F loadspellchecklist F month F loadtypescriptfile F monthmnem F monthname F loadvisualizer F locatefilepath F mpcolor F locfilename F mpflushliteral F lower F mpflushreset F lpdf adddocumentcolorspace F mpaettext F lpdf adddocumentextqstate F mpgraphic F lpdf adddocumentpattern F mpoptions F lpdf adddocumentshade F mprunset F lpdf addtocatalog F mpruntab F lpdf addtoinfo F mprunvar F lpdf addtonames F mpsetclippath F lpdf addtopageattributes F mpsetoutercolor F lpdf\_addtopageresources F mpsetsxsy F lpdf\_addtopagesattributes F mpsettext F lpdf collectedresources F mptexget F lpdf color F mptexreset F luascript F mptexset F luathread F mptexsetfrombuffer F lxmlid F namedstructureuservariable F markcontent F namedstructurevariable F markingnumber F naturalwd F markingtitle F nhfs F markinjector F nextcountervalue F nextparallel F markregionbox F markregionboxcorrected F nextsubcountervalue F nofdays F markregionboxtagged F markvisualfonts F nofstackedfloats F mathfraction F notedeltapage F mathrenderset F notelistindex F message F notenumberpage F metapostescaped F noteprefixednumber F metapostformatted F notesymbolpage F notetitle F metapostgraphformat F minute F ntimes F mixcleanup F number F mixfinalize F numbers F mixflushlist F octnumber F mixflushrest F octstringtonumber F mixgetsplit F operatingsystem

F mixsetsplit
F mixstate

F ordinal

F outputfilename

F overloadbookmark F processlist F overloaderror F processregister F pagestaterealpage F processsplit F processsynonyms F parpos F pdfrotation F profilebox F pdfstartmatrix F purefontname F pdfstartmirroring F pushfloat F pdfstartrotation F pushhyphenation F pdfstartscaling F pushitaliccorrection F pdfstopmatrix F pushlist F pdfstopmirroring F pushpath F pdfstoprotation F pushrandomseed F pdfstopscaling F pushreferenceprefix F percentageof F pushregime F pgfxcolorspec F pushsectionblock F pickupbuffer F pushstream F pickupmarkedcontent F rawcharacter F rawcountervalue F pickuppunctuation F rawdate F placeparallel F popfloat F rawsubcountervalue F pophyphenation F referencepagedetail F popitaliccorrection F referencepagestate F referencerealpage F poplist F registerattachment F poppath F poprandomseed F registerbackendsymbol F popreferenceprefix F registerbodyfontsize F registerbookmark F popregime F popsectionblock F registerbuttons F postponenotes F registercolorintent F prefixedconverted F registeredviewerlayer F presetsymbollist F registerfigurepattern F presettabulate F registerfiguresuffix F prevcountervalue F registerhelp F previoussubcountervalue F registerhyphenationexception F processbodyfontsizes F registerhyphenationpattern F processbuffer F registeritemgroup F processcolorcomponents F registerlanguagefeatures F processedfile F registerlinenumbering F processedfiles F registermaintextcolor F processfile F registermpyfile F processfilemany F registernamedlua F processfilenone F registernamespace F processfileonce F registerobject

F registerpostponedblock

F processiob

F registerreferencedobject F restoreobject F registerrendering F reuserandomseed F registersection F revivefeature F registershownsynonym F romannumerals F registerstructureprocessor F rounded F registersynonym F runbuffer F registerunit F runcontextiob F registerusedsvnonvm F safechar F registeruserdata F savehuffer F relatemarking F savecounter F renderingvar F savecurrentattributes F replacefeature F savedlistnumber F replacepospxywhd F savedlistprefixednumber F reportstructure F savedlisttitle F resavefloat F savefloat F resetcharacteralign F savemargindata F resetcounter F savenote F reseteffect F savepagedata F resetfeature F savepageinjections F resetfontfeature F saveparallel F resetfontsolution F savespecificfloat F resetiniector F savestructureblock F resetitaliccorrection F savetaggedtwopassdata F resetmapfiles F savetwopassdata F resetmarking F savevariable F resetmathattributes F second F resetmathitalics F selectstructureblock F resetnullfont F setactivecatcodes F resetparallel F setbreakpoints F resetpath F setcharacteralign F resetprevdepth F setcharactercasing F resetreference F setcharactercleaning F resetscript F setcharacterkerning F resetshownsynonyms F setcharacterspacing F resetstructureprocessor F setcharacterstripping F resetsubcounter F setclosedocumentaction F resettimer F setclosepageaction F resettrackers F setcolormodel F setcounter F resetusedsynonyms F restartcounter F setdataset F restartsubcounter F setdigitsmanipulation F restorecounter F setdirection F restorecurrentattributes F setdocumentargument

F setdocumentcommandline

F restorenote

F setdocumentctxfile F setmathitalics F setdocumentdefaultargument F setmathstyle F setdocumentenvironments F setmpextensions F setdocumentfilename F setnegative F setdocumentfilenames F setnextinternalreference F setdocumentmodes F setnextreferenceorder F setdocumentmodules F setnotestate F seteffect F setnotesymbolpage F setelementuserproperties F setopendocumentaction F setfieldcalculationset F setopenpageaction F setfigurelookuporder F setowncounter F setfigurepaths F setownsubcounter F setfirstline F setpagecolormodel F setfontfeature F setpagestate F setfontofid F setpagestaterealpageno F setfontsolution F setpagetransition F setformat F setparbuilder F setformsmethod F setprofile F setrandomseed F sethyphenatedurlcharacters F sethyphenationfeatures F setrealign F sethyphenationmethod F setrealspaces F setinitial F setreferencearguments F setinitialsectionblock F setreferenceattribute F setinjector F setreferenceoperation F setinnerreferencemethod F setregionbox F setinsertionlocation F setregionboxtagged F setinterfaceconstant F setregistermethod F setinterfaceelement F setreplacements F setinterfacemessage F setscript F setinterfacemessages F setsectionblock F setinterfacevariable F setsectionentry F setinternal reference F setstructurehlockstate F setitaliccorrection F setstructurelevel F setjavascriptpreamble F setstructurenumber F setjobcomment F setsubcounter F setlanguageexceptions F settagaspect F setlanguagesynonym F settagcombination F setlettercatcodes F settagdelimitedsymbol F setmarking F settagfigure F setmathalphabet F settaggedmetadata F setmathalternate F settaghighlight F setmathattribute F settagitem F setmathdirection F settagitemgroup

F settaglist

F setmathdomain

F settagnotation F spotcolorname F settagnotationsymbol F spotcolorparent F settagproperty F spotcolorvalue F settagproperty b F startactualtext F settagproperty n F startchemical F settagregister F startcolorset F settagsorting F startcomponent F settagsubsentencesymbol F startenvironment F settagsynonym F startfontsolution F settagtablecell F startparbuilder F settagtabulatecell F startproduct F setupbookmarks F startproject F setupcanvas F startregime F setupcharacterspacing F startsectionlevel F setupexport F startstream F setupfontexpansion F starttag F setupfontprotrusion F starttag\_c F setupidentity F starttag d F setupinsertion F starttag u F setupitaliccorrection F starttext F setuplinenumbering F startviewerlaver F setuserinterface F stopactualtext F setvalidinterfacekeys F stopchemical F setvisual F stopcolorset F setvisualfont F stopcomponent F setvisuallaver F stopenvironment F setxmpfile F stopfontsolution F showassignerror F stopparbuilder F showattributes F stopproduct F showcounter F stopproject F showdebuginfo F stopregime F showdirectives F stopsectionlevel F showdiscretionaries F stopstream F showexperiments F stoptag F showhyphenatedinlist F stoptext F showhyphenationtrace F stopviewerlayer F showinjector F storejavascriptcode F showjustification F storejavascriptpreamble F storenote F showlogcategories F showmessage F storeregister F showtrackers F strdp F strhd F sin F sind F strht

F strip

F splitfilename

F structureautocatcodedget F useMPlibrary F structurecatcodedget F useanyfile F structuregivencatcodedget F useanyfileonce F structurenumber F usecldfile F structuretitle F usecldfileonce F structureuservariable F usecolors F structurevariable F usecomponent F strwd F useenvironment F subcountervalue F usefigurebase F subcountervalues F usefile F subsubcountervalues F usejavascriptpreamble F subtractfeature F usejavascriptscripts F synchronizemarking F useluafile F useluafileonce F synchronizestream F useluamodule F synonymmeaning F synonymname F usemodules F systemlog F usepath F tagmfunctionlab F useproduct F tagmfunctiontxt F useproject F tan F usesubpath F tand F usesymbols F texdefinition one F usetexfile F texdefinition\_two F usetexfileonce F textime F useurl F thefirstcharacter F usexmlfile F usexmlfileonce F themaxboxwidth F theremainingcharacters F usezipfile F tochar F utfchar F utfmathclass F transparencycomponents F triggerpagebuilder F utfmathcommand F truefilename F utfmathcommandabove F type F utfmathcommandbelow F typebuffer F utfmathcommandfiller F utfmathfiller F typefile F utfmathstretch F uchar F uchexnumber F vboxlisttohbox F uchexnumbers F verbose F undefinechemical F vspacing F unicodechar F vspacingcollapse F unihex F vspacingcollapseonly F unit\_normal F vspacingdefine F unit\_reverse F vspacingsetamount F vspacingsnap F unloadlanguage

F way

F upper

F weekday F xmldirectivesafter F weekdayname F xmldirectivesbefore F writestatus F xmldisplayverbatim F xmldoif F x table c F x table cleanup F xmldoifelse F x table construct F xmldoifelseempty F x table create F xmldoifelseselfemptv F x table finish row F xmldoifelsetext F x table flush F xmldoifemptv F x table init construct F xmldoifnot F x table init reflow height F xmldoifnotemptv F x table init reflow height option F xmldoifnotselfemptv F x\_table\_init\_reflow\_width F xmldoifnottext F x table init reflow width option F xmldoifselfemptv F x table next row F xmldoiftext F x\_table\_next\_row\_option F xmlelement F x\_table\_r F xmlfilter F xmlfilterlist F x table reflow height F xmlfirst F x table reflow width F x table set construct F xmlflush F x table set reflow height F xmlflushcontext F x table set reflow width F xmlflushlinewise F xmladdindex F xmlflushsetups F xmlaftersetup F xmlflushspacewise F xmlall F xmlfunction F xmlappendsetup F xmlaetindex F xmlinclude F xmlapplyselectors F xmlatt F xmlincludeoptions F xmlattdef F xmlinclusion F xmlattribute F xmlinclusions F xmlattributedef F xmlindex F xmlbadinclusions F xmlinlineverbatim F xmlbeforesetup F xmlinstalldirective F xmlchainatt F xmllast F xmlchainattdef F xmllastatt F xmlchecknamespace F xmlload F xmlcommand F xmlloadbuffer F xmlconcat F xmlloaddata F xmlloaddirectives F xmlconcatrange F xmlcontext F xmlloadentities F xmlcount F xmlmain F xmldelete F xmlmatch F xmldirect F xmlname

F xmlnamespace

F xmldirectives

F xmlnonspace

F xmlpos

F xmlprependsetup

F xmlraw

F xmlrawtex

F xmlrefatt

F xmlregisterns

F xmlremapname

F xmlremapnamespace

F xmlremovesetup

F xmlresetinjectors

F xmlresetsetups

F xmlsave

F xmlsetcommandtonone

F xmlsetcommandtotext

F xmlsetentity

F xmlsetinjectors

F xmlsetsetup

F xmlsnippet

F xmlstartraw

F xmlstarttiming

F xmlstopraw

F xmlstoptiming

F xmlstrip

F xmlstripanywhere

F xmlstripnolines

F xmlstripped

F xmlstrippednolines

F xmltag

F xmltexentity

F xmltext

F xmltobuffer

F xmltobufferverbose

F xmltofile

F xmltoparameters

F xmlverbatim

F xmlwithindex

F year

setconstantfunctionsetcountfunctionsetdimenfunctionsetelementfunctionsetformatfunctionsetmacrofunction

setmessage setmessages settranslation setuserinterface setvalidkeys setvariable showmessage storedscanners strings syntax tolist translations

variables

writestatus

function function function function function function data table table data table function data table function

#### io (basic lua)

ask function
bytes function
characters function
close function
exists function
fileseparator string
flush function

loadchunk function
loaddata function
loadlines function
noflines function

open overloaded function
output overloaded function

pathseparator string

read function readall function readnumber function readstring function savedata function size function stderr userdata stdin userdata stdout userdata **tmpfile** function function type write function

### jit (context)

arch string
attach function
flush function
off function
on function
opt table
 F start

os string
status function
version string
version\_num number

# job (context)

| comment           | function | F    | find          |       |
|-------------------|----------|------|---------------|-------|
| datasets          | table    |      | first         |       |
| D collected       |          |      | get           |       |
| F extend          |          |      | getcollected  |       |
| F getdata         |          |      | getdata       |       |
| F setdata         |          |      | getfield      |       |
| D tobesaved       |          |      | gettobesaved  |       |
| disablesave       | function | F    | inlist        |       |
| fileobjreferences | table    | F    | last          |       |
| D collected       |          | F    | list          |       |
| D tobesaved       |          | F    | save          |       |
| files             | table    | F    | savetagged    |       |
| D collected       |          | D    | tobesaved     |       |
| F context         |          | posi | tions         | table |
| B forcerun        |          | F    | b_col         |       |
| F run             |          | F    | b_region      |       |
| D tobesaved       |          | F    | С             |       |
| initialize        | function | D    | collected     |       |
| load              | function | F    | column        |       |
| loadother         | function | F    | сору          |       |
| objects           | table    | F    | depth         |       |
| D collected       |          | F    | e_col         |       |
| F get             |          | F    | e_region      |       |
| F number          |          | F    | enhance       |       |
| F page            |          | F    | extra         |       |
| F save            |          | F    | get           |       |
| F set             |          | F    | getreserved   |       |
| D tobesaved       |          | F    | hangafter     |       |
| pack              | boolean  | F    | hangindent    |       |
| packversion       | number   | F    | height        |       |
| pagestates        | table    | F    | hsize         |       |
| D collected       |          | F    | leftskip      |       |
| F extend          |          | F    | lowerleft     |       |
| F realpage        |          | F    | lowerright    |       |
| F setstate        |          | F    | markregionbox |       |
| D tobesaved       |          | F    |               |       |
| passes            | table    |      | onsamepage    |       |
| F check           |          |      | overlapping   |       |
| D collected       |          | F    |               |       |
| F count           |          | F    | page          |       |
| F define          |          | F    | paragraph     |       |

F parindent F position Fr F region F replace F rightskip F set F setall F setdim F setregionbox D tobesaved F upperleft F upperright S used F width Fχ F xy Fу register function function save table structure D collected T components T tobesaved T branches S name S type variables table D checksums D collected F getchecksum F makechecksum F restore F save F setchecksum D tobesaved

number

version

# lang (basic tex)

| clean             | function |
|-------------------|----------|
| clear_hyphenation | function |
| clear_patterns    | function |
| exceptions        | function |
| gethjcode         | function |
| hyphenate         | function |
| hyphenation       | function |
| hyphenationmin    | function |
| id                | function |
| new               | function |
| patterns          | function |
| postexhyphenchar  | function |
| posthyphenchar    | function |
| preexhyphenchar   | function |
| prehyphenchar     | function |
| sethjcode         | function |

# languages (context)

F registerexception

| associate              | function   | F registerpattern        |            |
|------------------------|------------|--------------------------|------------|
| associated             | data table | F setfeatures            |            |
| association            | function   | installed                | function   |
| counters               | data table | labels                   | table      |
| current                | function   | F define                 |            |
| data                   | data table | F split                  |            |
| decimals               | data table | lefthyphenmin            | function   |
| define                 | function   | loadable                 | function   |
| expand                 | function   | loadwords                | function   |
| expanders              | table      | logger                   | table      |
| frequencies            | table      | F report                 |            |
| F averagecharwidth     |            | numbers                  | data table |
| F getdata              |            | postexhyphenchar         | function   |
| getdata                | function   | posthyphenchar           | function   |
| getnumber              | function   | preexhyphenchar          | function   |
| hyphenate              | function   | prehyphenchar            | function   |
| hyphenators            | table      | registered               | data table |
| T dictionaries         |            | replacements             | table      |
| D featuresets          |            | F add                    |            |
| F handler              |            | F handler                |            |
| T methods              |            | F set                    |            |
| F expanded             |            | righthyphenmin           | function   |
| B none                 |            | serializediscretionary   | function   |
| F original             |            | setexceptions            | function   |
| F tex                  |            | setsynonym               | function   |
| F traditional          |            | showdiscretionaries      | function   |
| B optimize             |            | unload                   | function   |
| F popmethod            |            | version                  | number     |
| F pushmethod           |            | visualizediscretionaries | function   |
| F setmethod            |            | words                    | table      |
| F setup                |            | F check                  |            |
| F showhyphenationtrace |            | T data                   |            |
| T traditional          |            | F disable                |            |
| F definefeatures       |            | F enable                 |            |
| F gettrace             |            | T enablers               |            |
| F hyphenate            |            | B enables                |            |
| F injecthyphens        |            | F found                  |            |
| F installmethod        |            | F load                   |            |
| F lasttrace            |            | T methods                |            |
| F loadpatterns         |            | N threshold              |            |

### layouts (context)

#### **status** table

F isleftpage

F leftorrightpagection

#### lfs (extra lua)

attributes overloaded function chdir overloaded function

currentdir function

lock function

**mkdirs** function

unlock 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)

color function function convert convertfile function convertstring function einject function eprint function escape function finalized function finject function **fprint** function aet function getvariables function htmfile function html table

F a F td F th

include function
inherited table

S color-background-four

S color-background-one

S color-background-three

S color-background-two

S title

initialize function inject function **lmxfile** function loadedfile function make function function new overloaderror function popupfile function print function function pν function report function reset result function set function function show showdebuginfo function showerror function stripcss function
tv function
type function
urlescape function
variable function
variables 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)

application function function categories direct function disable function enable function exporters table extendbanner function flush function help function messenger function function new newline function poptarget function pushtarget function report function function reportbanner function reporter table reporters

F banner

F export

F help

F info

F lines

F version

reportline function reportlines function setformats function setformatters function setloafile function function setmessenger setprocessor function setprogram function settarget function settimedlog function settranslations function function show show close function show load function show open function simple function simpleline function

simplelines function start page number function status function function stop page number subdirect function function subreport system function function texerrormessage function writer

# lpdf (context)

| action                   | function   | finalizedocument          | function   |
|--------------------------|------------|---------------------------|------------|
| adddocumentcolorspace    | function   | finalizepage              | function   |
| adddocumentextgstate     | function   | finishtransparencycode    | function   |
| adddocumentpattern       | function   | flushobject               | function   |
| adddocumentshade         | function   | flushstreamfileobject     | function   |
| addtocatalog             | function   | flushstreamobject         | function   |
| addtoinfo                | function   | formats                   | data table |
| addtonames               | function   | frompdfdoc                | function   |
| addtopageattributes      | function   | fromsixteen               | function   |
| addtopageresources       | function   | gethpos                   | function   |
| addtopagesattributes     | function   | getmatrix                 | function   |
| addxmpinfo               | function   | getpos                    | function   |
| annotationspecification  | function   | getvpos                   | function   |
| array                    | function   | graycode                  | function   |
| boolean                  | function   | hasmatrix                 | function   |
| border                   | function   | id                        | function   |
| checkedkey               | function   | injectxmpinfo             | function   |
| checkedvalue             | function   | insertxmpinfo             | function   |
| circularshade            | function   | layerreference            | function   |
| cmykcode                 | function   | limited                   | function   |
| collectedresources       | function   | linearshade               | function   |
| color                    | function   | nametree                  | function   |
| colorspace               | function   | null                      | function   |
| colorspaceconstants      | data table | number                    | function   |
| colorspec                | function   | pagedestinations          | data table |
| colorvalue               | function   | pagereference             | function   |
| colorvalues              | function   | pagereferences            | data table |
| constant                 | function   | pdfcolor                  | function   |
| delayedobject            | function   | pdftimestamp              | function   |
| destinationspecification | function   | protectresources          | boolean    |
| dictionary               | function   | rectangle                 | function   |
| docstring                | function   | reference                 | function   |
| epdf                     | table      | registerannotation        | function   |
| F contenttotext          |            | registerdestination       | function   |
| F expand                 |            | registerdocumentfinalizer | function   |
| F expanded               |            | registerpagefinalizer     | function   |
| F getpagecontent         |            | reserveobject             | function   |
| F getstructure           |            | rgbcode                   | function   |
| F load                   |            | rotationcm                | function   |
| F unload                 |            | shareobject               | function   |
| escaped                  | function   | shareobjectreference      | function   |

spotcode function function stream string function timestamp function toeight function topdfdoc function tosixteen function transform function transparency function transparencycode function transparencygroups table

B none

transparencyvalue function
unicode function
verbose function

#### lpeg (basic lua)

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

#### ltn12 (extra lua)

```
BLOCKSIZE number
filter
             table
   F chain
   F cycle
             table
pump
   F all
   F step
             table
sink
   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)

bytecode table bytedata data table table bytedone collectgarbage function delay function finalize function firstbytecode number flush function function flushdelayed get functions table function getbytecode function getluaname function lastbytecode number mask string messages data table table name data table numbers registercode function registeredcodes function registerfinalizer function registername function setbytecode function setluaname function startupfile string version string

#### luatex (context)

cleanuptempfiles function
registerstartactions function
registerstopactions
registertempfile function
starttime number

# lxml (context)

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

setaction function
setcdata function
setcommandtonone function
setcommandtotext function
setsetup function
snippet function
sorters table

F add F compare

F flush F reset

F show

xmltexhandler

F sort splitid function function startraw stopraw function store function strip function stripped function tag function text function tobuffer function tofile function toparameters function toverbatim function verbatim function withindex function

data table

### math (basic lua)

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

### mathematics (context)

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

#### mbox (context)

```
parse function
parse_from function
parse_header function
parse_message function
split_headers function
split_mbox function
split_message function
```

#### md5 (extra lua)

HEX function
crypt function
dec function
exor function
hex function
sum function
sumhexa function

# metapost (context)

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

setoutercolorfunctionsettextfunctionshowlogbooleansvformatfunctiontextable

F get
F reset
F set

F setfrombuffer

texerrors boolean
textextsdata function
theclippath function
totable function
unload function
untagvariable function
variables table

#### mime (extra lua)

```
b64
           function
decode
           function
decodet
           table
   F base64
   F quoted-printable
           function
dot
encode
           function
encodet
           table
   F base64
   F quoted-printable
eol
           function
normalize function
           function
qр
           function
qpwrp
stuff
           function
unb64
           function
           function
unqp
           function
wrap
wrapt
           table
   F base64
   F default
   F quoted-printable
   F text
           function
wrp
```

# mp (context)

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

|  | t |  |  |
|--|---|--|--|
|  |   |  |  |

| get_outline_text | function |
|------------------|----------|
| graphformat      | function |
| n                | function |
| numeric          | function |
| pair             | function |
| path             | function |
| print            | function |
| quadruple        | function |
| quoted           | function |
| report           | function |
| size             | function |
| triplet          | function |
| tt_dimensions    | function |
| tt_initialize    | function |

#### mplib (extra tex)

fields function
finder function
finders table

F file

get\_boolean function
get\_number function
get\_string function

new overloaded function

pen\_info function
preprocessed function
version function

#### noads (context)

#### handlers table F alternates F autofences F classes F collapse F domains F families F italics F relocate F render F resize F showtree F tags F unscript F variants function process processnested function table processors T autofences T collapse F mlist\_to\_hlist T relocate T render T resize T unscript

processouter

function

### node (basic tex)

| сору                     | function | F is_direct            |          |
|--------------------------|----------|------------------------|----------|
| copy_list                | function | F is_node              |          |
| count                    | function | F kerning              |          |
| current attr             | function | F last_node            |          |
| dimensions               | function | F length               |          |
| direct                   | table    | F ligaturing           |          |
| F copy                   |          | F new                  |          |
| F copy_list              |          | F protect_glyph        |          |
| F count                  |          | F protect_glyphs       |          |
| F current_attr           |          | F protrusion_skippable |          |
| F dimensions             |          | F remove               |          |
| F do_ligature_n          |          | F set_attribute        |          |
| F effective_glue         |          | F set_properties_mode  |          |
| F end_of_math            |          | F setboth              |          |
| F first_glyph            |          | F setbox               |          |
| F flush_list             |          | F setchar              |          |
| F flush_node             |          | F setdisc              |          |
| F flush_properties_table |          | F setfield             |          |
| F free                   |          | F setleader            |          |
| F get_attribute          |          | F setlink              |          |
| F get_properties_table   |          | F setlist              |          |
| F getboth                |          | F setnext              |          |
| F getbox                 |          | F setprev              |          |
| F getchar                |          | F setproperty          |          |
| F getdisc                |          | F setsubtype           |          |
| F getfield               |          | F slide                |          |
| F getfont                |          | F tail                 |          |
| F getid                  |          | F todirect             |          |
| F getleader              |          | F tonode               |          |
| F getlist                |          | F tostring             |          |
| F getnext                |          | F traverse             |          |
| F getprev                |          | F traverse_char        |          |
| F getproperty            |          | F traverse_id          |          |
| F getsubtype             |          | F unprotect_glyphs     |          |
| F has_attribute          |          | F unset_attribute      |          |
| F has_field              |          | F usedlist             |          |
| F has_glyph              |          | F vpack                |          |
| F hpack                  |          | F write                |          |
| F insert_after           |          | do_ligature_n          | function |
| F insert_before          |          | effective_glue         | function |
| F is_char                |          | end_of_math            | function |

| familia fami                      | e                    |
|-----------------------------------|----------------------|
| <pre>family_font fields</pre>     | function<br>function |
|                                   | function             |
| first_glyph<br>flush_list         | function             |
| <del>-</del>                      |                      |
| flush_node                        | function             |
| <pre>flush_properties_table</pre> | function             |
| free                              | function             |
| get_attribute                     | function             |
| <pre>get_properties_table</pre>   | function             |
| getboth                           | function             |
| getchar                           | function             |
| getdisc                           | function             |
| getfield                          | function             |
| getfont                           | function             |
| getid                             | function             |
| getleader                         | function             |
| getlist                           | function             |
| getnext                           | function             |
| getprev                           | function             |
| getproperty                       | function             |
| getsubtype                        | function             |
| has_attribute                     | function             |
| has_field                         | function             |
| has_glyph                         | function             |
| hpack                             | function             |
| id                                | function             |
| insert_after                      | function             |
| insert_before                     | function             |
| is_char                           | function             |
| is_node                           | function             |
| kerning                           | function             |
| last_node                         | function             |
| length                            | function             |
| ligaturing                        | function             |
| mlist_to_hlist                    | function             |
| new                               | function             |
| next                              | function             |
| prev                              | function             |
| protect_glyph                     | function             |
| protect_glyphs                    | function             |
| protrusion_skippable              | function             |
| remove                            | function             |
| set_attribute                     | function             |
| set_properties_mode               | function             |
|                                   |                      |

setfield function setproperty function slide function subtype function subtypes function function tail tostrina function function traverse function traverse char traverse id function type function types function unprotect\_glyphs function unset\_attribute function usedlist function vpack function whatsits function write function

# nodes (context)

| accentcodes  | data table  | free spec  | function                         |
|--|---|--|----------------------------------|
| aligned  | function  | fullhpack  | function                         |
| append   | function  | getattr  | function                         |
| astable  | function  | getattribute   | function                         |
| basepoints   | function  | getbox   | function                         |
| builders   | table   | getchar  | function                         |
| F buildpage_filter   |   | getfield   | function                         |
| F vpack_filter   |   | getfont  | function                         |
| codes  | data table  | getid  | function                         |
| concat   | function  | getleader  | function                         |
| сору   | function  | getlist  | function                         |
| copy_list  | function  | getnext  | function                         |
| copy_spec  | function  | getprev  | function                         |
| count  | function  | getskip  | function                         |
| current_attr   | function  | getsubtype   | function                         |
| delete   | function  | gluecodes  | data table                       |
| destinations   | table   | glyphcodes   | data table                       |
| N attribute  |   | glyphdir_is_equal  | data table                       |
| T done   |   | glyphdir_is_opposite   | data table                       |
| F handler  |   | glyphdir_is_orthogonal   | data table                       |
| T stack  |   | handlers   | table                            |
| dimensionfields  | data table  | F accessibility  |                                  |
| dimensions   | function  | F alignbackgrounds   |                                  |
| dir_is_pop   | data table  | F backgrounds  |                                  |
|  |   | F characters   |                                  |
| dir_negation   | data table  | r characters   |                                  |
| dir_negation<br>disccodes  | data table<br>data table  | F checkforleaks  |                                  |
|  | data table<br>data table  |  |                                  |
| disccodes<br>discretionarycodes<br>do_ligature_n   | data table<br>data table<br>function  | F checkforleaks  |                                  |
| discodes discretionarycodes do_ligature_n effective_glue   | data table data table function function   | F checkforleaks F checkglyphs  |                                  |
| discodes discretionarycodes do_ligature_n effective_glue end_of_math   | data table data table function function function  | F checkforleaks F checkglyphs F cleanupbox   |                                  |
| disccodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes   | data table data table function function function data table   | F checkforleaks F checkglyphs F cleanupbox F cleanuppage   |                                  |
| discodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields   | data table data table function function function data table function  | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export  |                                  |
| discodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes   | data table data table function function function data table function data table   | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize   |                                  |
| disccodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph  | data table data table function function data table function data table function data table function   | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate   |                                  |
| discodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph firstcharacter                                      | data table data table function function data table function data table function data table function function  | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate F protectglyphs F stripping F unprotectglyphs   |                                  |
| disccodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph firstcharacter firstcharinbox                      | data table data table function function data table function data table function data table function function function                                   | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate F protectglyphs F stripping F unprotectglyphs has_attribute                           | function                         |
| discodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph firstcharacter firstcharinbox firstdirinbox         | data table data table function function data table function data table function data table function function function function                          | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate F protectglyphs F stripping F unprotectglyphs has_attribute has_field                 | function                         |
| disccodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph firstcharacter firstcharinbox firstglyph           | data table data table function function data table function data table function data table function function function function function function        | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate F protectglyphs F stripping F unprotectglyphs has_attribute has_field has_glyph       | function<br>function             |
| disccodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph firstcharacter firstdirinbox firstglyph flush_list | data table data table function function data table function data table function function function function function function function function function | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate F protectglyphs F stripping F unprotectglyphs has_attribute has_field has_glyph hpack | function<br>function<br>function |
| disccodes discretionarycodes do_ligature_n effective_glue end_of_math fencecodes fields fillcodes first_glyph firstcharacter firstcharinbox firstglyph           | data table data table function function data table function data table function data table function function function function function function        | F checkforleaks F checkglyphs F cleanupbox F cleanuppage F export F finalize F migrate F protectglyphs F stripping F unprotectglyphs has_attribute has_field has_glyph       | function<br>function             |

| <pre>injections     F copy</pre>                     | table      | listablefields<br>listcodes |
|--|------------|-----------------------------|
| F getligaindex                                       |            | listtoutf                   |
| F handler  |            | load                        |
| F installnewkern                                     |            | locate                      |
| F keepcounts   |            | margincodes                 |
| F reset  |            | marginkerncodes             |
| F resetcounts  |            | markers                     |
| F setcursive   |            | Faet                        |
| F setkern  |            | mathcodes                   |
| F setligaindex                                       |            | maxboxwidth                 |
| F settigatildex                                      |            | mlist to hlist              |
|  |            | new                         |
| F setpair insert after                               | function   | noadcodes                   |
| insert_arter   | function   | nodecodes                   |
| <del>-</del>   | function   |                             |
| <pre>insert_list_after installattributehandler</pre> | function   | nopts<br>nuts               |
|  | function   |                             |
| is_direct  | function   | F append                    |
| is_display_math                                      | data table | F concat                    |
| is_mirrored  |            | F copy                      |
| is_node  | function   | F copy_list                 |
| is_nut   | function   | F copy_properties           |
| is_rotated   | data table | F count                     |
| kerncodes  | data table | F current_attr              |
| kerning  | function   | F delete                    |
| keys   | table      | F dimensions                |
| T whatsit  |            | F do_ligature_n             |
| last_node  | function   | F effective_glue            |
| leadercodes  | data table | F end_of_math               |
| leftmarginwidth                                      | function   | F first_glyph               |
| ligaturing   | function   | F firstcharacter            |
| lines  | table      | F firstcharinbox            |
| T boxed  |            | F firstglyph                |
| F register   |            | F flush_list                |
| F setup  |            | F flush_node                |
| F stage_one  |            | F free                      |
| F stage_two  |            | F fullhpack                 |
| D data   |            | F getattr                   |
| F finalize   |            | F getattribute              |
| F number   |            | F getboth                   |
| N scratchbox   |            | F getbox                    |
| link   | function   | F getchar                   |
| linked   | function   | F getdisc                   |
| list   | function   | F getfield                  |

data table data table function function function data table data table table

data table function function function data table data table function

table

F aetfont F leftskip F getid F lineskip F getleader F negatedglue F getlist F noad F getnext F pdfannotation F pdfdestination F getprev F getprop F pdfdirect F getskip F pdfliteral F getsubtype F pdfrestore F has attribute F pdfsave F has field F pdfsetmatrix F has glyph F penalty F hpack F register F rightmarginkern F insert after F insert before F rightskip F insert\_list\_after F rule F is\_char F shrink F special F is direct F stretch F is display math F temp F is node F is nut F textdir F kerning F usage F last\_node T userids F leftmarginwidth N margins.inline F ligaturing N property F link N splitters.one F linked N splitters.two F locate F userlist F mlist to hlist F usernumber F nestedtracedslide F userstring F new F usertokens T pool F vlist F baselineskip F zeroglue F cleanup F prepend F disc F protect\_glyph F fontkern F protect\_glyphs F protrusion\_skippable F glue F gluespec F rawprop F glyph F reference F hlist F remove F kern F repackhlist F latelua F replace F lateluafunction F rightmarginwidth

F set\_attribute

F leftmarginkern

| F. antotto           | F. Maradaa          |            |
|----------------------|---------------------|------------|
| F setattr            | F vianodes          |            |
| F setattribute       | F vianuts           |            |
| F setattributes      | F vpack             |            |
| F setboth            | F writable_spec     |            |
| F setbox             | F write             | £          |
| F setchar            | packlist            | function   |
| F setdisc            | pardir_is_equal     | data table |
| F setfield           | pardir_is_opposite  | data table |
| F setleader          | pardir_is_parallel  | data table |
| F setlink            | partextdir_is_equal | data table |
| F setlist            | penaltycodes        | data table |
| F setnext            | plugindata          | table      |
| F setprev            | F finalizer         |            |
| F setprop            | F initializer       |            |
| F setsubtype         | S name              |            |
| F setunsetattributes | T namespace         |            |
| F setvisual          | N attribute         |            |
| F slide              | D data              |            |
| F somepenalty        | F enable            |            |
| F somespace          | F handler           |            |
| F tail               | F register          |            |
| F takebox            | D registered        |            |
| F theprop            | D values            |            |
| F tonode             | F processor         |            |
| F tonodes            | points              | function   |
| F tonut              | pool                | table      |
| F tosequence         | F baselineskip      |            |
| F tostring           | F cleanup           |            |
| F tracedslide        | F glyph             |            |
| F traverse           | F kern              |            |
| F traverse_char      | F latelua           |            |
| F traverse_id        | F lateluafunction   |            |
| T typesetters        | F lineskip          |            |
| F tohbox             | F pdfdirect         |            |
| F tohpack            | F pdfliteral        |            |
| F tonodes            | F pdfrestore        |            |
| F tovbox             | F pdfsave           |            |
| F tovpack            | F pdfsetmatrix      |            |
| F unprotect_glyphs   | F register          |            |
| F unset_attribute    | F rule              |            |
| F unsetattribute     | F special           |            |
| F unsetattributes    | F usage             |            |
| F untracedslide      | F usernumber        |            |
| F usedlist           | prepend             | function   |
|                      |                     |            |

| print  | function   | setattributes   | function   |
|--|--|---|------------|
| processors   | table  | setbox  | function   |
| B enabled  |  | setfield  | function   |
| F hpack_filter   |  | setunsetattributes  | function   |
| F post_linebreak_filter  |  | shifts  | table      |
| F pre_linebreak_filter   |  | D data  |            |
| F tracer   |  | F define  |            |
| processwords   | function   | F enable  |            |
| properties   | table  | F handler   |            |
| T actions  |  | show  | function   |
| F delayed  |  | showboxes   | function   |
| F fdelayed   |  | showcodes   | function   |
| F immediate  |  | showlist  | function   |
| F attach   |  | showsimplelist  | function   |
| T data   |  | skipcodes   | data table |
| F delayed  |  | slide   | function   |
| protect_glyph  | function   | snapshots   | table      |
| protect_glyphs   | function   | F getparameters   |            |
| protrusion_skippable   | function   | F getsamples  |            |
| pts  | function   | F resetsamples  |            |
| radicalcodes   | data table   | F takesample  |            |
| reference  | function   | somepenalty   | function   |
| references   | table  | somespace   | function   |
| N attribute  |  | stripdiscretionaries  | function   |
| T done   |  | stripping   | table      |
| F handler  |  | T glyphs  |            |
| T stack  |  | F set   |            |
| remove   | function   | striprange  | function   |
| repackhlist  | function   | tail  | function   |
| replace  | function   | takebox   | function   |
| report   | function   | tasks   | table      |
|  | rancezon   |   |            |
| rightmarginwidth   | function   | F actions   |            |
| rightmarginwidth<br>rulecodes  | function<br>data table   | F actions F appendaction  | 132 10     |
|  | function   |   | 100 10     |
| rulecodes  | function<br>data table   | F appendaction  |            |
| rulecodes<br>rules   | function<br>data table   | F appendaction<br>F disableaction   |            |
| rulecodes<br>rules<br>D data   | function<br>data table   | F appendaction<br>F disableaction<br>F disablegroup   |            |
| rulecodes<br>rules<br>D data<br>F define                                       | function<br>data table   | F appendaction F disableaction F disablegroup F enableaction  |            |
| rulecodes rules D data F define F enable F handler save                        | function data table table                                      | F appendaction F disableaction F disablegroup F enableaction F enablegroup  |            |
| rulecodes rules D data F define F enable F handler save serialize              | function data table table function function                    | F appendaction F disableaction F disablegroup F enableaction F enablegroup F freeze                                     |            |
| rulecodes rules D data F define F enable F handler save serialize serializebox | function data table table function function function           | F appendaction F disableaction F disablegroup F enableaction F enablegroup F freeze F freezegroup                       |            |
| rulecodes rules D data F define F enable F handler save serialize              | function data table table  function function function function | F appendaction F disableaction F disablegroup F enableaction F enablegroup F freeze F freezegroup F new                 |            |
| rulecodes rules D data F define F enable F handler save serialize serializebox | function data table table function function function           | F appendaction F disableaction F disablegroup F enableaction F enablegroup F freeze F freezegroup F new F prependaction |            |

| F table F table F table F table F resetproperties  textdir_is_equal data table f rule  textdir_is_opposite data table f setlist  textdir_is_parallel data table f setproperties  textdir_is_parallel data table f setproperties  tobasepoints function T steppers  tocentimeters function F codes function F features  todimen function F font todidots function F font todines f function f sessages  tomewciceros function f pessages  tonewciceros function f pessages  tonewcidots function f presster tonode function function F reset fonce function f start topicas function f stop  toscaledpoints function f pestlist tosequence function function f pestlist  totree function function f set foreset function f set function f set foreset function f set function f set foreset function f set function f set function f set foreset function f set function f set function f set foreset function freverse function freverse function freverse function freverse function f stopp function freverse f set  | F setaction         |            | T nuts            |          |
|--|---------------------|------------|-------------------|----------|
| textdir_is_equal data table Frute textdir_is_is data table Fsetlist textdir_is_opposite data table Fsetlist textdir_is_parallel data table Fstart tobasepoints function Tsteppers tocentimeters function Fcheck tociceros function Fcheck todidots function Fcheck todidots function Ffentures todimen function Ffentures function Ffentures todimen function Ffentures function Fmessage tomewciceros function Fmessage tomewciceros function Fresset tonowed function Frester function Frester tonowed function Frester tonode function Frester tonodes function Frester tonodes function Frester topicas function Frester topicas function Frester topicas function Frest topicas function Frest toscaledpoints function Frest toscaledpoints function Frest toscaledpoints function Frest tothere function Frest tothere function Frest tothere function Frest tothere function traverse function functi | F showactions       |            | F rule            |          |
| textdir_is_opposite data table F setlist textdir_is_opposite data table F start tobasepoints function T steppers tocentimeters function F codes todidots function F font todidots function F font todinches function F glyphs tomillimeters function F message tonewciceros function F messages tonewciceros function F messages tonewciceros function F messages tonewcidots function F messages tonewcidots function F register tonode function F reset tonode function F reset tonode function F reset tonodes function F reset tonotices function F reset tonotices function F stop topoints function F stop topoints function F stop toscaledpoints function F set toscaledpoints function F set tostring function F set totable function F set totree function traverse function toutf function traverse function tracers table traverse_id function tracers f collect F equal F hpack F start F string F tohpack F start F string F tohpack F string F unicodes T colors F set F set F set F set F set F set F string F finchar F reset F set F set F set F strist F fontchar T frequencies F resitist F fontchar T frequencies F register T pool Usedlist function T pool Usedlist function T nodes  | F table             |            | F resetproperties |          |
| textdir_is_parallel data table F setproperties  totoasepoints function T steppers  tocentimeters function F codes  todidots function F font  todimen function F font  toinches function F message  tonewciceros function F message  tonode function F register  tonode function F stop  tonodes function F stop  topoints function F stop  toscaledpoints function F reset  tostring function F set  tostring function F set  tostring function F set  totree function traverse function  tracers table traverse id function  tracers table traverse id function  tracers f collect F hbox  F equal F start  F string F tohbox  F string F tohbox  F string F tohbox  F reset  F reset F towpack  F set  F reset F towpack  F reset  F reset  F reset F towpack  F reset  F reset  F rouncion  T pool  Usedlist function  T nodes  | textdir_is_equal    | data table | F rule            |          |
| textdir_is_parallel tobasepoints function function F check tociceros function F codes todidots function f features todimen function f features tomillimeters function f features function F font toinches function F font tomillimeters function f features tomillimeters function f features tomewciceros function F features tomewciceros function F message tonewciceros function F messages tonewdidots function F messages tonewdidots function F register tonode function F reset tonode function F reset tonut function F stop topoints function F stop toscaledpoints function f F stop toscaledpoints function f F seet tostring function f F seet totable function toutf function traverse function traverse f collect F equal F start F collect F equal F string F tohpack F start F string F tohpack F string F tohpack F string F tohpack F string F tohpack F seet F stropack F seet F seet F seet F stropack F seet | textdir_is_is       | data table | F setlist         |          |
| tobasepoints  tocentimeters tociceros function f check tociceros function todidots function f f codes todidots function f f codes todidots function f f codes todimen function f f font toinches function f f font toinches function f message tonewciceros function f messages tonewdidots function f messages tonewdidots function f messages tonode function f messages tonode function f messages tonode function f messages tonode function f messages  tonode function f messages  tonode function f messages  tonode function f register  tonode function f start topicas function f stop  topoints function f messages  tonode function f reset tonode function f stop  topicas function f messages  tonode function f reset tonode function f stop  topicas function f stop  toscaledpoints function f messages  function f stop  topicas function f stop  toscaledpoints function f messages function f reset function f stop  toscaledpoints function f reset function f messages function f reset f function f stop  toscaledpoints function f reset function f reset function f f setlist function f f setlist f f tohbox f f stard f string f punctodes f toolors f string f punctodes f toolors f reset f set f stoybox f reset f setlist f unprotect_glyphs function f frequencies f register function unsetattribute function f prool usedlist function function function function function function function f prool function function function function function f fonction function func | textdir_is_opposite | data table | F setproperties   |          |
| tocentimeters tociceros function frodes todidots function frequence tonines function frequence tonewiceros function function frequence function frequal frequence frequal frequence frequal frequence frequal frequence function funct | textdir_is_parallel | data table | F start           |          |
| tociceros function F codes  todidots function F features  todimen function F font  toinches function F glyphs  tomillimeters function F message  tonewciceros function F messages  tonewdidots function F messages  tonewdidots function F messages  tonode function F register  tonodes function F reset  tonotes function F stop  tonotes function F stop  topoints function F stop  toscaledpoints function F reset  toscaledpoints function F reset  tostring function F reset  totree function F set  totree function traverse function  tracers table traverse d function  tracers table traverse d function  f start  F collect F hbox  F string F tohpack  F string F tohodes  T colors F tovobox  F reset  F set F topock  F set  F set F topock  F set  F reset  F setlist unprotect_glyphs function  T frequencies unsetatribute function  T frequencies unsetatribute function  T frool  T pool  U usedlist function  Vianodes function  Vianodes function  Vianodes function  | tobasepoints        | function   | T steppers        |          |
| todidots function F features todimen function F font toinches function F glyphs tomillimeters function F message tonewciceros function F messages tonewdidots function F messages tonode function F messages tonode function F register tonode function F steps tonodes function F stop tonodes function F stop topoints function F stop topoints function F stop toscaledpoints function F set tostring function F set tostring function F set totree function F setlist totree function traverse function toutf function traverse function tracers table traverse_id function tracers F hobox F start F collect F equal F stop F tonodes T colors F tonodes T colors F tovbox F reset F set F toppack F set F setlist unprotect_glyphs function T frequencies unsetatribute function T frequencies unsetattribute function T pool usedList function  | tocentimeters       | function   | F check           |          |
| todimen function F font toinches function F glyphs tomillimeters function F message tonewciceros function F messages tonewdidots function F messages toneded function F messages tonode function F register tonodes function F reset tonut function F start topicas function F stop topoints function F stop toscaledpoints function F reset tostring function F set totable function F set totable function F set totree function traverse function tracers table traverse_id function tracers table F hpack F equal F start F collect F hbox F string F tohpack F reset F toypack F set F toppack F reset F toypack F set F toppack F set F  | tociceros           | function   | F codes           |          |
| toinches function F glyphs  tomillimeters function F message tonewciceros function F messages tonewdidots function F nofsteps tonode function F register tonodes function F register tonodes function F start topicas function F stop topoints function F stop toscaledpoints function F reset tostring function F set totable function F set totable function F set totathe function F set totathe function F set totathe F stop totathe F stop totathe F stop totathe F stop totathe F set totathe F stop totathe F set T characters S table S stop F set F set F set F stop F s | todidots            | function   | F features        |          |
| tomillimeters tonewciceros function f messages tonewdidots function f nofsteps tonode function f register tonodes function f register tonodes function f reset tonut function f reset topicas function f stop topoints function f stop toscaledpoints function f reset tostring function f reset tostring function f reset totable function f reset totable function f reset totree function toutf function traverse function traverse function traverse function f stop  T characters f blobx f equal f string f tohpack f start f string f unction f stoppack f function f f tohpack f string f tonodes f colors f reset f set f setlist unprotect_glyphs function f requencies f register unsetattribute function f pool usedlist f unction f unction f function f frequencies f unsetattribute function f function   | todimen             | function   | F font            |          |
| tonewciceros function F messages tonewdidots function F nofsteps tonode function F register tonodes function F reset tonut function F reset tonut function F store topoints function F stop toscaledpoints function F reset tostring function F reset totable function F set function totree function F set function toutf function T traverse function tracers table traverse_id function tracers table traverse_id function T characters F tohpack F start F tohpack F string F tohpack F string F tohoods T colors F reset F tonodes F tonodes F reset F tonodes F re | toinches            | function   | F glyphs          |          |
| tonewdidots function F nofsteps tonode function F register tonodes function F reset tonut function F start topicas function F stop topoints function F stop toscaledpoints function T transparencies tosequence function F set tostring function F set totable function F set totable function F set totathe function F set totathe function T traverse function toutf function traverse function tracers table traverse_id function tracers table T hobox F sequal F hobox F start F tohbox F start F string F tohpack F string F unicodes F tonodes T colors F reset F set F tovbox F reset F set F tovbox F reset F set F tovpack F setlist F fontchar Unprotect_glyphs function T frequencies F register Unsectatribute function T pool Unsectatributes function T pool T nodes  | tomillimeters       | function   | F message         |          |
| tonode function F register  tonodes function F reset  tonut function F start  topicas function F stop  topoints function F stop  toscaledpoints function T transparencies  tosequence function F set  tostring function F set  totable function F setlist  totree function traverse function  tracers table traverse_char function  tracers table F hbox  F equal F hbox  F start F tohbox  F string F tohpack  F string F tonodes  T colors F towook  F reset F towook  F set  F reset F towook  F set  F reset F towook  F set  F fortchar unset_attribute function  T frequencies unsetattributes function  T pool  T nodes vianodes function   | tonewciceros        | function   | F messages        |          |
| tonodes tonut function   | tonewdidots         | function   | F nofsteps        |          |
| tonut function F start topicas function F stop topoints function F stop toscaledpoints function T transparencies tosequence function F set tostring function F set totable function F setlist totree function traverse function toutf function traverse_char function tracers table traverse_id function T characters F collect F hbox F equal F hpack F start F tohbox F string F tronodes T colors F tovobox F reset F tovobox F rotor F reset F tovobox F rotor | tonode              | function   | F register        |          |
| topicas function F stop  topoints function F stop  toscaledpoints function T transparencies  tosequence function F set  tostring function F set  totable function F setlist  totree function traverse function  toutf function traverse_char function  T characters table traverse_id function  F collect F hbox F equal F hpack F start F tohbox F string F tohbox F string F tohbox F string F tohoock F setlist F tohoock F reset F tovpack F set F tovpack F set F tovpack F set F tovpack F setlist unprotect_glyphs function F fontchar unset_attribute function F fequencies unsetattribute function T frequencies unsetattributes function T pool usedlist function T pool T nodes  | tonodes             | function   | F reset           |          |
| topoints function F stop  toscaledpoints function T transparencies  tosequence function F reset  tostring function F set  totable function F setlist  totree function traverse function  toutf function traverse_char function  tracers table traverse_id function  T characters table f hobox  F equal F hobox  F start F tohbox  F string F tohbox  F string F tohook  F fonclors  F reset F tovook  F reset F tovook  F reset F tovook  F reset F tovook  F setlist unprotect_glyphs function  F fontchar unset_attribute function  T frequencies unsetattribute function  F register unsetattributes function  T pool usedlist function  T nodes  | tonut               | function   | F start           |          |
| toscaledpoints tosequence function freset tostring function function freset totable function function freset totable function function function traverse function traverse_char function tracers table function traverse_id function traverse_id function  | topicas             | function   | F stop            |          |
| tosequence tostring function function function function function function function function traverse function traverse function traverse function tracers table function function tracers function tracers table function function function tracers function traverse_id function typesetters table  function  | topoints            | function   | F stop            |          |
| tostring function F set totable function F setlist totree function traverse function toutf function traverse_char function tracers table traverse_id function T characters table F collect F hbox F equal F hpack F start F tohbox F string F tohbox F tonodes T colors F tovobox F reset F tovobox F set F setlist F setlist unprotect_glyphs function F fontchar I frequencies I function I frequencies I function I frequencies I function I fool function I fool function I function I fool function I function I fool function I | toscaledpoints      | function   | T transparencies  |          |
| totable function F setlist totree function traverse function toutf function traverse_char function tracers table traverse_id function T characters typesetters table  F collect F hbox F equal F hpack F start F tohbox F string F tohpack F unicodes T colors F tovoox F reset F set F tovoox F reset F set F tovoox F reset F setlist unprotect_glyphs function T frequencies unsetattribute function T frequencies unsetattribute function T pool T nodes T indes T usedlist function Usedlist function T nodes   | tosequence          | function   | F reset           |          |
| totree function traverse function toutf function traverse_char function tracers table traverse_id function T characters typesetters table  F collect F hbox F equal F hpack F start F tohbox F string F tohpack F unicodes T colors F tovobox F reset F tovobox F set F tovopack F set F tovopack F set F tovopack F set Uniprotect_glyphs function F fontchar Uniset_attribute function T frequencies Unisetattribute function T pool University Union T nodes Vianodes function  | tostring            | function   | F set             |          |
| toutf tracers table traverse_id function T characters table traverse_id function T characters typesetters table  F collect F hbox F equal F hpack F start F tohbox F string F tohpack F unicodes T colors F tovbox F reset F tovybox F reset F tovybox F set F tovyack F set F vyack F setlist unprotect_glyphs function F fontchar T frequencies unset_attribute function T frequencies unsetattribute function T pool usedlist function T nodes  | totable             | function   | F setlist         |          |
| tracers table traverse_id function T characters typesetters table  F collect F hbox F equal F hpack F start F tohbox F string F tohpack F unicodes T colors F tovbox F reset F tovpack F set F tovpack F set F tovpack F set I f tovpack F tovpack F set I f tovpack F tovpack F tovpack F set I f tovpack F | totree              | function   | traverse          | function |
| T characters typesetters table  F collect F hbox F equal F hpack F start F tohbox F string F tohpack F unicodes F tonodes  T colors F tovbox F reset F tovpack F set F vpack F setlist unprotect_glyphs function F fontchar unset_attribute function T frequencies unsetattribute function T pool usedlist function T nodes  | toutf               | function   | traverse_char     | function |
| F collect F equal F equal F hpack F start F tohbox F string F tohpack F unicodes F unicodes F toodes T colors F reset F tovbox F reset F tovpack F set F vpack F setlist Unprotect_glyphs F function F fontchar Unset_attribute F unction F register Unsetattributes F unction Unsetattributes F unction F rool Unsetattributes F unction Unsetattributes F unction F rool Unsetattributes F unsetattributes F unction F rool F ro | tracers             | table      | traverse_id       | function |
| F equal F start F start F tohbox F string F tohpack F unicodes F unicodes F toodes T colors F reset F tovbox F reset F tovpack F set F vpack F setlist unprotect_glyphs function F fontchar unset_attribute function T frequencies unsetattribute function T pool usedlist function T nodes  | T characters        |            | typesetters       | table    |
| F start F string F string F tohpack F unicodes F unicodes F toolors F tovbox F reset F tovpack F set F set F vpack F setlist unprotect_glyphs f unction F fontchar unset_attribute f unction F register unsetattribute f unction F register unsetattributes f unction T pool usedlist f unction T nodes  | F collect           |            | F hbox            |          |
| F string F tohpack F unicodes F tonodes T colors F tovbox F reset F tovpack F set F vpack F setlist unprotect_glyphs function F fontchar unset_attribute function T frequencies unsetattribute function F register unsetattributes function T pool usedlist function T nodes vianodes function   | F equal             |            | F hpack           |          |
| F unicodes T colors F tovbox F reset F tovpack F set F vpack F setlist unprotect_glyphs f unction F fontchar unset_attribute f unction T frequencies unsetattribute f unction F register unsetattributes f unction T pool usedlist f unction T nodes   | F start             |            | F tohbox          |          |
| T colors F reset F reset F tovpack F set F setlist F setlist F setlist F unprotect_glyphs F function F fontchar T frequencies F register T pool T nodes F tovbox F tovbox F tovbox F tovpack F vpack F vpack F vpack F unprotect_glyphs F unction F unset_attribute F unction F unsetattribute F unction T usedlist F unction F usedlist F unction F usedlist F unction F unction F nodes  | F string            |            | F tohpack         |          |
| F reset F set F set F set F setlist F requence F fontchar F fontchar F requencies F register F unsetattribute F function F register F unsetattributes F function F register F register F tovpack F value F value F value F function F register F tovpack F value F value F value F function F register F value F function F register F value F value F value F function F register F value F val | F unicodes          |            | F tonodes         |          |
| F set F setlist unprotect_glyphs function F fontchar unset_attribute function T frequencies unsetattribute function F register unsetattributes function unsetattributes function unsetattributes function vianodes function  | T colors            |            | F tovbox          |          |
| F setlist unprotect_glyphs function F fontchar unset_attribute function T frequencies unsetattribute function F register unsetattributes function T pool usedlist function T nodes vianodes function   | F reset             |            | F tovpack         |          |
| F fontchar unset_attribute function T frequencies unsetattribute function F register unsetattributes function T pool usedlist function T nodes vianodes function   | F set               |            | F vpack           |          |
| T frequencies unsetattribute function F register unsetattributes function T pool usedlist function T nodes vianodes function   | F setlist           |            |                   |          |
| F register unsetattributes function T pool usedlist function T nodes vianodes function   | F fontchar          |            | <del>-</del>      |          |
| T pool usedlist function T nodes vianodes function   | T frequencies       |            |                   |          |
| T nodes <b>vianodes</b> function   | F register          |            |                   |          |
|  | T pool              |            |                   |          |
| F rule <b>vianuts</b> function   | T nodes             |            | vianodes          | function |
|  | F rule              |            | vianuts           | function |

visualizebox function
visualizers table
 F box
 F handler

F markfonts
F setfont
F setlayer
F setvisual

vpack function
whatcodes data table
whatsitcodes data table
whatsitters table

T getters
T dimensions
T width
T setters
T dimensions
T width

writable\_spec function
write function

# number (context)

|                | function  |
|----------------|-----------|
| basepoints     | function  |
| bit            | function  |
| bits           | function  |
| clearbit       | function  |
| dimenfactors   | data tabl |
| formatted      | function  |
| hasbit         | function  |
| maxdimen       | number    |
| nopts          | function  |
| percent        | function  |
| points         | function  |
| pts            | function  |
| setbit         | function  |
| signed         | function  |
| sparseexponent | function  |
| splitdimen     | function  |
| tobasepoints   | function  |
| tobitstring    | function  |
| tocentimeters  | function  |
| tociceros      | function  |
| todidots       | function  |
| todimen        | function  |
| toevenhex      | function  |
| toinches       | function  |
| tomillimeters  | function  |
| tonewciceros   | function  |
| tonewdidots    | function  |
| tonumberf      | function  |
| tonumberg      | function  |
| topicas        | function  |
| topoints       | function  |
| toscaled       | function  |
| toscaledpoints | function  |
| toset          | function  |
| valid          | function  |
|                |           |

#### objects (context)

data table
dimensions function
found function
n number
page function
reference function
register function
restore function

### os (basic lua)

| actony              | function             |          |
|---------------------|----------------------|----------|
| getenv              | function<br>function |          |
| setenv<br>binsuffix |                      |          |
| binsuffixes         | string               |          |
| clock               | table<br>function    |          |
| converttime         |                      |          |
|                     | function             |          |
| date<br>difftime    | function<br>function |          |
|                     |                      |          |
| env                 | data table           | £        |
| exec                | overloaded           |          |
| execute             | overloaded           | function |
| exit                | function             |          |
| fulltime            | function             | e        |
| getenv              | overloaded           | Tunction |
| gettimeofday        | function             |          |
| isleapyear          | function             |          |
| launch              | function             |          |
| libsuffix           | string               |          |
| localtime           | function             |          |
| name                | string               |          |
| newline             | string               |          |
| nofdays             | function             |          |
| now                 | function             |          |
| platform            | string               |          |
| remove              | overloaded           |          |
| rename              | overloaded           | function |
| resolvers           | table                |          |
| F bits              |                      |          |
| resultof            | function             |          |
| runtime             | function             |          |
| selfdir             | string               |          |
| setenv              | overloaded           |          |
| setlocale           | overloaded           | function |
| sleep               | function             |          |
| spawn               | overloaded           | function |
| time                | function             |          |
| times               | function             |          |
| timezone            | function             |          |
| tmpdir              | function             |          |
| tmpname             | function             |          |
| today               | function             |          |

type string function uname uuid function validdate function weekday function function where which function

# package (basic lua)

| config        | string   |
|---------------|----------|
| cpath         | string   |
| extralibpath  | function |
| extralibpaths | function |
| extraluapath  | function |
| extraluapaths | function |
| helpers       | table    |
| libpaths      | function |
| loaded        | table    |
| loaders       | table    |
| loadlib       | function |
| luapaths      | function |
| path          | string   |
| preload       | table    |
| searchpath    | function |
| seeall        | function |

### pagebuilders (context)

### 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)

mapline

obj

maxobjnum

newcolorstack

| fontname               | function | objtype                | function            |
|------------------------|----------|------------------------|---------------------|
| fontobjnum             | function | pageref                | function            |
| fontsize               | function | print                  | function            |
| getcatalog             | function | refobj                 | function            |
| getcompresslevel       | function | registerannot          | overloaded function |
| getdecimaldigits       | function | reserveobj             | function            |
| getdestmargin          | function | setcatalog             | overloaded function |
| gethpos                | function | setcompresslevel       | function            |
| getignoreunknownimages | function | setdecimaldigits       | function            |
| getinclusionerrorlevel | function | setdestmargin          | function            |
| getinfo                | function | setignoreunknownimages | function            |
| getlastannot           | function | setinclusionerrorlevel | function            |
| getlastlink            | function | setinfo                | overloaded function |
| getlastobj             | function | setlinkmargin          | function            |
| getlinkmargin          | function | setmajorversion        | function            |
| getmajorversion        | function | setminorversion        | function            |
| getmatrix              | function | setnames               | overloaded function |
| getminorversion        | function | setobjcompresslevel    | function            |
| getnames               | function | setorigin              | function            |
| getobjcompresslevel    | function | setpageattributes      | overloaded function |
| getorigin              | function | setpageresources       | overloaded function |
| getpageattributes      | function | setpagesattributes     | overloaded function |
| getpageresources       | function | setpkresolution        | function            |
| getpagesattributes     | function | setthreadmargin        | function            |
| getpkresolution        | function | settrailer             | overloaded function |
| getpos                 | function | setxformattributes     | function            |
| getretval              | function | setxformmargin         | function            |
| getthreadmargin        | function | setxformresources      | function            |
| gettrailer             | function | xformname              | function            |
| getversion             | function |                        |                     |
| getvpos                | function |                        |                     |
| getxformattributes     | function |                        |                     |
| getxformmargin         | function |                        |                     |
| getxformresources      | function |                        |                     |
| hasmatrix              | function |                        |                     |
| immediateobj           | function |                        |                     |
| mapfile                | function |                        |                     |
|                        |          |                        |                     |

function

function

function

function

# pdfscanner (context)

scan function

# physics (context)

### units table

F registerunit

D tables

### profiler (extra lua)

```
pause function
resume function
start function
stop function
```

## publications (context)

| addtexentry          | function   | S author     |
|----------------------|------------|--------------|
| analyze              | function   | T categories |
| anywhere             | function   | T article    |
| authorcache          | data table | S category   |
| authorcollapsers     | data table | T extra      |
| authorhashers        | table      | T fields     |
| F invertedshort      |            | S author     |
| F normal             |            | S editor     |
| F normalinverted     |            | S journal    |
| F normalshort        |            | S keywords   |
| F short              |            | S number     |
| authormap            | data table | S pages      |
| authortoregister     | function   | S title      |
| casters              | table      | S volume     |
| F author             |            | S year       |
| F keyword            |            | T optional   |
| F pagenumber         |            | T required   |
| F range              |            | T sets       |
| checkeddataset       | function   | T author     |
| citevariants         | table      | T virtual    |
| F author             |            | T book       |
| F authornum          |            | S category   |
| F authoryear         |            | T extra      |
| F authoryears        |            | T fields     |
| F category           |            | S address    |
| F default            |            | S author     |
| F entry              |            | S edition    |
| F index              |            | S editor     |
| F keywords           |            | S keywords   |
| F num                |            | S number     |
| F page               |            | S publisher  |
| F short              |            | S subtitle   |
| F tag                |            | S title      |
| F textnum            |            | S volume     |
| F year               |            | S year       |
| collected            | data table | T optional   |
| components           | table      | T required   |
| F author             |            | T sets       |
| concatstate          | function   | T author     |
| converttoxml         | function   | T editionset |
| currentspecification | table      | T 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 | datasets         | table      |
| S subtitle     | detailed         | table      |
| S title        | endnotes_to_btx  | function   |
| S year         | enhancer         | 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       | enhancers        | table      |
| S author       | F details        |            |
| S institution  | F order          |            |
| S organization | F suffixes       |            |
| S subtitle     | finder           | function   |
| S title        | firstofrange     | function   |
| S year         | found            | function   |
| T optional     | get              | function   |
| T required     | getcasted        | function   |
| T sets         | getdetail        | function   |
| T authors      | getdirect        | function   |
| T virtual      | getfaster        | function   |
| S comment      | getfield         | function   |
| S copyright    | getfuzzy         | function   |
| T fields       | getindex         | function   |
| S name         | inspectors       | data table |
| T types        | journals         | table      |
| S author       | F abbreviated    |            |
| S editor       | F add            |            |
| S keywords     | F expanded       |            |
| S number       | F load           |            |
| S page         | F save           |            |
| S pages        | lastofrange      | function   |
| S volume       | lists            | table      |
| S version      | F collectentries |            |
| D virtual      | F combiinlist    |            |

| F fetchentries  |                   | okay  | function          |
|---|-------------------|---|-------------------|
| F filterall   |                   | oneorrange  | function          |
| F flushcombi  |                   | parenttag   | function          |
| F flushentry  |                   | permitted   | function          |
| T methods   |                   | refman_to_btx   | function          |
| F dataset   |                   | resolvedname  | function          |
| F force   |                   | save  | function          |
| F global  |                   | search  | function          |
| F local   |                   | setcategory   | function          |
| F nofregistered   |                   | setspecification  | function          |
| F prepareentries  |                   | singularorplural  | function          |
| F register  |                   | sortedentries   | function          |
| F sameasprevious  |                   | sortmethods   | table             |
| T sorters   |                   | T authoryear  |                   |
| F cite  |                   | T sequence  |                   |
| F dataset   |                   | specifications  | 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   |                   |
| listvariants  | table             | splitauthor   | function          |
| F default   |                   | splitoneauthor  | function          |
| F index   |                   | statistics  | table             |
| F num   |                   | N nofbytes  |                   |
| F page  |                   | N nofdatasets   |                   |
| F short   |                   | N nofdefinitions  |                   |
| F tag   |                   | N nofshortcuts  |                   |
| load  | function          | tables  | table             |
| loadbibdata   |                   |   |                   |
|   | function          | D implicits   |                   |
| loaddefinitionfile  | function          | D implicits D origins   |                   |
|   |                   | ·   |                   |
| loaddefinitionfile  | function          | D origins   |                   |
| loaddefinitionfile<br>loaders   | function          | D origins D privates  |                   |
| loaddefinitionfile<br>loaders<br>F bbl  | function          | D origins<br>D privates<br>D sets   |                   |
| loaddefinitionfile<br>loaders<br>F bbl<br>F bib   | function          | D origins D privates D sets D specials  |                   |
| loaddefinitionfile loaders  F bbl F bib F buffer F endnote F lua                                  | function          | D origins D privates D sets D specials D types D virtuals tags  | function          |
| loaddefinitionfile loaders  F bbl F bib F buffer F endnote F lua F refman                         | function          | D origins D privates D sets D specials D types D virtuals tags tracers  | function<br>table |
| loaddefinitionfile loaders  F bbl F bib F buffer F endnote F lua F refman F registercleaner       | function          | D origins D privates D sets D specials D types D virtuals tags tracers F showdatasetauthors                         | table             |
| loaddefinitionfile loaders  F bbl F bib F buffer F endnote F lua F refman F registercleaner F xml | function<br>table | D origins D privates D sets D specials D types D virtuals tags tracers F showdatasetauthors F showdatasetcompletene | table             |
| loaddefinitionfile loaders  F bbl F bib F buffer F endnote F lua F refman F registercleaner       | function          | D origins D privates D sets D specials D types D virtuals tags tracers F showdatasetauthors                         | table             |

- F showfields
- F showhashedauthors
- F showtables
- F showvariants

### typesetters

table

F author

F string

usedataset usedentries writers function
function
table

- F author
- F keyword
- F pagenumber
- F range

### regimes (context)

```
cleanup
disable function
enable function
fromregime function
pop function
process function
push function
toregime function
translate function
```

## resolvers (context)

| allprefixes                  | function            | findtexfile             | function   |
|------------------------------|---------------------|-------------------------|------------|
| appendhash                   | function            | findwildcardfile        | function   |
| automount                    | function            | findwildcardfiles       | function   |
| automounted                  | table               | formatofsuffix          | function   |
| booleanvariable              | function            | formatofyariable        | function   |
| cacheversion                 | string              | formats                 | data table |
| checkedvariable              | function            | generators              | data table |
| cleanedpathlist              | function            | get from content        | function   |
| cleanpath                    | function            | getenv                  | function   |
| cleanpathlist                | function            | getownpath              | function   |
| concatinators                | data table          | getreadfilename         | function   |
| configbanner                 | string              | hashers                 | data table |
| criticalvars                 | data table          | homedir                 | string     |
| dangerous                    | data table          | inputstack              | table      |
| datastate                    | function            | installinputfilehandler | function   |
| defaultsuffixes              | table               | installinputlinehandler | function   |
| dowithfilesandreport         | function            | instance                | table      |
| dowithfilesintree            | function            | D data                  |            |
| dowithpath                   | function            | B diskcache             |            |
| dowithvariable               | function            | D environment           |            |
| env                          | function            | D expansions            |            |
| executers                    | table               | D fakepaths             |            |
| expandbraces                 | function            | D files                 |            |
| expandedpathfromlist         | function            | B force_suffixes        |            |
| expandedpathlist             | function            | D found                 |            |
| expandedpathlistfromvariable | function            | D foundintrees          |            |
| expandpath                   | function            | D hashed                |            |
| expandpathfromvariable       | function            | D hashes                |            |
| expansion                    | function            | D lists                 |            |
| extendtexmfvariable          | function            | B loaderror             |            |
| filtered_from_content        | function            | D order                 |            |
| find_file                    | function            | D pathlists             |            |
| find_files                   | <del>function</del> | T pathstack             |            |
| findbinfile                  | function            | B remember              |            |
| findctxfile                  | function            | B renewcache            |            |
| finders                      | data table          | B renewtree             |            |
| findfile                     | function            | B savelists             |            |
| findfiles                    | function            | D setups                |            |
| findgivenfile                | function            | D specification         |            |
| findgivenfiles               | function            | D variables             |            |
| findpath                     | function            | jobpath                 | function   |
|                              |                     |                         |            |

| jobs                 | table      | registerextrapath      | function   |
|----------------------|------------|------------------------|------------|
| F currentcomponent   |            | registerfile           | function   |
| F currentenvironment |            | registerfilehash       | function   |
| F currentproduct     |            | registerintrees        | function   |
| F currentproject     |            | registermethod         | function   |
| F justacomponent     |            | registerzipfile        | function   |
| D processors         |            | relations              | data table |
| F productcomponent   |            | renew                  | function   |
| F usefile            |            | repath                 | function   |
| joinpath             | function   | reset                  | function   |
| load                 | function   | resetextrapath         | function   |
| loadbinfile          | function   | resetresolve           | function   |
| loaders              | data table | resolve                | function   |
| loadlualib           | function   | savers                 | data table |
| loadtexfile          | function   | scandata               | function   |
| loadtime             | function   | scanfiles              | function   |
| locateformat         | function   | schemes                | table      |
| locators             | data table | T cleaners             |            |
| luacnfname           | string     | F md5                  |            |
| luacnfspec           | string     | F none                 |            |
| luacnfstate          | string     | F strip                |            |
| macros               | table      | F cleanname            |            |
| F convertfile        |            | F fetchstring          |            |
| F decodecomment      |            | F fetchtable           |            |
| F enablecomment      |            | F install              |            |
| F encodecomment      |            | setdynamic             | function   |
| F preprocessed       |            | setenv                 | function   |
| F processmk          |            | setinstance            | function   |
| F processmkvi        |            | showpath               | function   |
| F version            |            | simplescanfiles        | function   |
| maxreadlevel         | number     | splitconfigurationpath | function   |
| methodhandler        | function   | splitexpansions        | function   |
| newinstance          | function   | splitmethod            | function   |
| openbinfile          | function   | splitpath              | function   |
| openers              | data table | stackpath              | function   |
| openfile             | function   | suffixes               | data table |
| opentexfile          | function   | suffixmap              | data table |
| ownpath              | string     | suffixofformat         | function   |
| popextrapath         | function   | texdatablob            | function   |
| poppath              | function   | toppath                | function   |
| prefixes             | data table | unexpandedpath         | function   |
| prependhash          | function   | unexpandedpathlist     | function   |
| pushextrapath        | function   | unresolve              | function   |
| pushpath             | function   | updaterelations        | function   |

| updatescript             | function   |
|--------------------------|------------|
| uselibrary               | function   |
| usertypes                | data table |
| usezipfile               | function   |
| validatedpath            | function   |
| variable                 | function   |
| variableofformat         | function   |
| variableofformatorsuffix | function   |
| wildcardpattern          | function   |

## sandbox (context)

| binaryhandler     | function |
|-------------------|----------|
| disablerunners    | function |
| enable            | function |
| filehandlerone    | function |
| filehandlertwo    | function |
| finalizer         | function |
| initializer       | function |
| iohandler         | function |
| logcalls          | function |
| logfiles          | function |
| original          | function |
| overload          | function |
| possiblepath      | function |
| redefine          | function |
| register          | function |
| registerbinary    | function |
| registerroot      | function |
| registerrunner    | function |
| report            | function |
| run               | function |
| runhandler        | function |
| setfilenamelogger | function |
| setlogger         | function |
| setreporter       | function |
| settrace          | function |
| validfilename     | function |
|                   |          |

### scripts (context)

#### autofontfeature table F disable F enable F handler categorytonumber data table colors data table decomposehangul function defaults table N inter\_char\_half\_shrink\_factor N inter\_char\_half\_stretch\_factor N inter\_char\_hangul\_penalty N inter\_char\_quarter\_shrink\_factor N inter\_char\_quarter\_stretch\_factor N inter\_char\_shrink\_factor N inter\_char\_stretch\_factor N inter\_word\_stretch\_factor handlers data table table hash injectors data table installdataset function installmethod function numbertocategory data table numbertodataset data table numbertohandler data table function reset function set **splitters** data table

### set (context)

contains function
create function
tolist function
tonumber function
totable function

## socket (extra lua)

| BLOCKSIZE  | number        | S | connection                |
|------------|---------------|---|---------------------------|
| _DEBUG     | boolean       | S | content-description       |
| _SETSIZE   | number        | S | content-disposition       |
| bind       | function      | S | content-encoding          |
| choose     | function      | S | content-id                |
| connect    | function      | S | content-language          |
| connect4   | function      | S | content-length            |
| connect6   | function      | S | content-location          |
| dns        | table         | S | content-md5               |
| F getaddr: | info          | S | content-range             |
| F gethost  | name          | S | content-transfer-encoding |
| F getname: | info          | S | content-type              |
| F tohostn  | ame           | S | date                      |
| F toip     |               | S | diagnostic-code           |
| ftp        | table         | S | dsn-gateway               |
| S PASSWORE | )             | S | etag                      |
| N PORT     |               | S | expect                    |
| N TIMEOUT  |               | S | expires                   |
| S USER     |               | S | final-log-id              |
| F command  |               | S | final-recipient           |
| F get      |               | S | from                      |
| F open     |               | S | host                      |
| F put      |               | S | if-match                  |
| gettime    | function      | S | if-modified-since         |
| headers    | table         | S | if-none-match             |
| T canonic  |               | S | if-range                  |
| S accept   |               | S | if-unmodified-since       |
| S accept   | -charset      | S | in-reply-to               |
| S accept   | -encoding     | S | keywords                  |
| S accept   | -language     | S | last-attempt-date         |
| S accept   | - ranges      | S | last-modified             |
| S action   |               | S | location                  |
| S age      |               | S | max-forwards              |
| S allow    |               | S | message-id                |
| S altern   | ate-recipient | S | mime-version              |
| S arriva   | l-date        | S | original-envelope-id      |
| S author   | ization       | S | original-recipient        |
| S bcc      |               | S | pragma                    |
| S cache-   | control       | S | proxy-authenticate        |
| S cc       |               | S | proxy-authorization       |
| S commen   | ts            | S | range                     |
|            |               |   |                           |

| S recei         | ved              | sinkt             | table                |  |
|-----------------|------------------|-------------------|----------------------|--|
| S recei         | .ved-from-mta    | F close-when-done |                      |  |
| S refer         | rences           | F default         |                      |  |
| S refer         | rer              | F http-chunked    |                      |  |
| S remot         | re-mta           | F keep-op         | oen                  |  |
| S reply         | v-to             | skip              | function             |  |
| S repor         | ting-mta         | sleep             | function             |  |
| S reser         | rt-bcc           | smtp              | table                |  |
| S reser         | rt-cc            | S DOMAIN          |                      |  |
| S reser         | t-date           | N PORT            |                      |  |
| S reser         | t-from           | S SERVER          |                      |  |
| S reser         | t-message-id     | N TIMEOUT         | Г                    |  |
| S reser         | t-reply-to       | S ZONE            |                      |  |
| S reser         | t-sender         | F message         | 2                    |  |
| S reser         | t-to             | F open            |                      |  |
| S retry         | r-after          | F send            |                      |  |
| S retur         | n-path           | source            | function             |  |
| S sende         |                  | sourcet           | table                |  |
| S serve         |                  | F by-leng         |                      |  |
|                 | remote-recipient | F default         |                      |  |
| S statu         |                  | F http-chunked    |                      |  |
| S subje         | ect              | F until-d         |                      |  |
| S te            |                  | tcp               | function             |  |
| S to            |                  | tcp6              | function             |  |
| S trail         |                  | tp                | table                |  |
|                 | fer-encoding     | N TIMEOUT         |                      |  |
| S upgra         |                  | F connect         |                      |  |
| S user-         | agent            | try<br>udp        | function<br>function |  |
| S vary<br>S via |                  | udp6              | function             |  |
| S warni         | ng               | url               | table                |  |
|                 | retry-until      | F absolut         |                      |  |
|                 | nuthenticate     | F build           | .e                   |  |
| S x-mai         |                  | F build_p         | nath                 |  |
| http            | table            | F escape          |                      |  |
| N PORT          |                  | F parse           |                      |  |
| N TIMEOU        | Г                | F parse_p         | oath                 |  |
| S USERAGI       | ENT              | F unescape        |                      |  |
| F open          |                  |                   |                      |  |
| F request       | t                |                   |                      |  |
| newtry          | function         |                   |                      |  |
| protect         | function         |                   |                      |  |
| select          | function         |                   |                      |  |
| sink            | function         |                   |                      |  |
|                 |                  |                   |                      |  |

### sorters (context)

```
basicsorter
                function
                table
comparers
   F basic
                table
constants
   S defaultdigits
   S defaultlanguage
   S defaultmethod
   N digitsmaximum
   N digitsoffset
   N ignoredoffset
   N replacementoffset
   T validmethods
    B ch
    B mc
    B mm
    Врс
    B pm
    B uc
    B zc
    B zm
definitions
                data table
firstofsplit function
packch
                function
                function
packuc
setlanguage
                function
sort
                function
splitters
                table
   F utf
                function
strip
tracers
                data table
update
                function
```

## statistics (context)

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

## status (basic tex)

list function
resetmessages function

### storage (context)

allocate function data table mark function marked function max number min number nofmodules number noftables number register function shared data table storedfunctions data table strip boolean tofmodules number toftables number

### streams (context)

```
collect
            function
disable
            function
enable
            function
flush
            function
initialize function
push
            function
start
            function
stop
            function
synchronize function
```

# string (basic lua)

| autodouble       | function            |
|------------------|---------------------|
| autosingle       | function            |
| booleanstring    | function            |
| byte             | function            |
| <b>bytepairs</b> | function            |
| bytes            | $ \hbox{function} $ |
| char             | $ \hbox{function} $ |
| characterpairs   | $ \hbox{function} $ |
| characters       | $ \hbox{function} $ |
| checkedsplit     | $ \hbox{function} $ |
| collapsespaces   | $ \hbox{function} $ |
| count            | function            |
| dump             | $ \hbox{function} $ |
| escapedpattern   | function            |
| explode          | function            |
| find             | $ \hbox{function} $ |
| format           | function            |
| formatter        | function            |
| formatters       | function            |
| fullstrip        | function            |
| gmatch           | function            |
| gsub             | function            |
| is_boolean       | function            |
| is_empty         | function            |
| itself           | function            |
| len              | function            |
| limit            | function            |
| longtostring     | function            |
| lower            | function            |
| match            | function            |
| nspaces          | table               |
| optionalquoted   | function            |
| quote            | function            |
| quoted           | function            |
| rep              | function            |
| replacenewlines  | function            |
| reverse          | function            |
| split            | function            |
| splitlines       | function            |
| splitup          | function            |
| strip            | function            |

| sub           | function |
|---------------|----------|
| tformat       | function |
| toHEX         | function |
| toboolean     | function |
| tobytes       | function |
| tocontext     | function |
| todec         | function |
| todimen       | function |
| tohex         | function |
| tonodes       | function |
| topattern     | function |
| totable       | function |
| toutf         | function |
| tracedchar    | function |
| tracedchars   | table    |
| unquote       | function |
| unquoted      | function |
| upper         | function |
| utfcharacters | function |
| utfvalues     | function |
| valid         | function |

## structures (context)

| atlocation       | function | F previous           |          |  |
|------------------|----------|----------------------|----------|--|
| blocks           | table    | F raw                |          |  |
| D collected      |          | F record             |          |  |
| F define         |          | Freset               |          |  |
| F print          |          | F restart            |          |  |
| F save           |          | F restore            |          |  |
| F select         |          | F save               |          |  |
| F setstate       |          | F set                |          |  |
| D states         |          | F setlevel           |          |  |
| D tobesaved      |          | F setoffset          |          |  |
| bookmarks        | 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 |          | currentsectionnumber | function |  |
| F merge          |          | descriptions         | table    |  |
| S method         |          | documents            | table    |  |
| F overload       |          | D data               |          |  |
| F place          |          | F initialize         |          |  |
| F register       |          | F preset             |          |  |
| F setup          |          | F reset              |          |  |
| counters         | table    | floats               | table    |  |
| F add            |          | formulas             | table    |  |
| F analyze        |          | helpers              | table    |  |
| F check          |          | F analyze            |          |  |
| D collected      |          | F formulanumber      |          |  |
| F compact        |          | F merged             |          |  |
| F converted      |          | F page               |          |  |
| F currentvalue   |          | F prefix             |          |  |
| D data           |          | F prefixlastpage     |          |  |
| F define         |          | F prefixpage         |          |  |
| F first          |          | F simplify           |          |  |
| F get            |          | F title              |          |  |
| Flast            |          | F touserdata         | +-61-    |  |
| F next           |          | inserts              | table    |  |
| F prev           |          | D data               |          |  |

| F define  |       | F savedlistprefixednumber   |    |
|---|-------|---|----|
| F getdata   |       | F savedlistfile  F savedlisttitle   |    |
| F getlocation   |       | D sectionblocks   |    |
| F getname   |       | F sectionnumber   |    |
| F getnumber   |       | F sectionnumber F size  |    |
| F setlocation   |       | F title   |    |
| F setup   |       |   |    |
| D stored  |       | D tobesaved<br>F userdata   |    |
| itemgroups  | table | F uservalue   |    |
| lists   | table | marks tabl  | _  |
| F addto   | table | D data  |    |
| F analyze   |       | F define  |    |
| B autoreorder   |       | F exists  |    |
| D cached  |       | F fetch   |    |
| D cached D collected  |       | F fetchallmarks   |    |
|   |       |   |    |
| F discard   |       | F fetched<br>F fetchonemark   |    |
| F enhance   |       | F fetchtwomarks   |    |
| T enhancers   |       |   |    |
| F filter  |       | F get   |    |
| F formulanumber   |       | 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  |       | notes tabl  | .e |
| D names   |       | notes tabl  | .e |
| D names<br>F number   |       | <pre>notes tabl   F checkpagechange   F define</pre>  | .e |
| D names<br>F number<br>D ordered  |       | <pre>notes tabl    F checkpagechange    F define    F doifonsamepageasprevious</pre>  | .e |
| D names<br>F number<br>D ordered<br>F page  |       | <pre>notes tabl   F checkpagechange   F define   F doifonsamepageasprevious   F get</pre>   | e  |
| D names F number D ordered F page F popnesting  |       | <pre>notes tabl   F checkpagechange   F define   F doifonsamepageasprevious   F get   F getdeltapage</pre>  | e  |
| D names F number D ordered F page F popnesting F prefix   |       | <pre>notes tabl   F checkpagechange   F define   F doifonsamepageasprevious   F get   F getdeltapage   F getn</pre>   | .e |
| D names F number D ordered F page F popnesting F prefix F prefixednumber  |       | <pre>notes tabl   F checkpagechange   F define   F doifonsamepageasprevious   F get   F getdeltapage</pre>  | .e |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage   |       | <pre>notes tabl   F checkpagechange   F define   F doifonsamepageasprevious   F get   F getdeltapage   F getn   F getnumberpage   F getstate</pre>  | e  |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage F process                                   |       | notes tabl  F checkpagechange F define F doifonsamepageasprevious F get F getdeltapage F getn F getnumberpage F getstate F getsymbolpage  | e  |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage F process D pushed                          |       | <pre>notes tabl   F checkpagechange   F define   F doifonsamepageasprevious   F get   F getdeltapage   F getn   F getnumberpage   F getsymbolpage   F hascontent</pre>                                      | e  |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage F process D pushed F pushnesting            |       | <pre>notes tabl    F checkpagechange    F define    F doifonsamepageasprevious    F get    F getdeltapage    F getn    F getnumberpage    F getstate    F getsymbolpage    F hascontent    F internal</pre> | е  |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage F process D pushed F pushnesting F realpage |       | r checkpagechange F define F doifonsamepageasprevious F get F getdeltapage F getn F getnumberpage F getstate F getsymbolpage F hascontent F internal F internalid   | е  |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage F process D pushed F pushnesting            |       | F checkpagechange F define F doifonsamepageasprevious F get F getdeltapage F getnumberpage F getstate F getsymbolpage F hascontent F internal F internalid F listindex                                      | e  |
| D names F number D ordered F page F popnesting F prefix F prefixednumber F prefixedpage F process D pushed F pushnesting F realpage |       | r checkpagechange F define F doifonsamepageasprevious F get F getdeltapage F getn F getnumberpage F getstate F getsymbolpage F hascontent F internal F internalid   | e  |

| F resetpostponed    |       | D filters                  |
|---------------------|-------|----------------------------|
| F restore           |       | D flaginternals            |
| F save              |       | F from                     |
| F setstate          |       | D functions                |
| F setsymbolpage     |       | F get                      |
| D states            |       | F getcurrentmetadata       |
| F store             |       | F getcurrentprefixspec     |
| pages               | table | F getinnermethod           |
| F analyze           |       | F getinternallistreference |
| D collected         |       | F getinternalreference     |
| F in_body           |       | D handlers                 |
| F is_odd            |       | F identify                 |
| N nofpages          |       | F import                   |
| F number            |       | F inject                   |
| F on_right          |       | F injectcurrentset         |
| F save              |       | S innermethod              |
| D tobesaved         |       | D internals                |
| references          | table | F load                     |
| F analyze           |       | F loadpresets              |
| F checkedfile       |       | F mark                     |
| F checkedfileorurl  |       | D pages                    |
| F checkedprogram    |       | U prefixsplitter           |
| F checkedrealpage   |       | D productdata              |
| F checkedurl        |       | T programs                 |
| D collected         |       | T data                     |
| U componentsplitter |       | F define                   |
| F currentmetadata   |       | F get                      |
| F currentorder      |       | F realpageofpage           |
| D currentset        |       | U referencesplitter        |
| F define            |       | D referred                 |
| D defined           |       | F referredpage             |
| D derived           |       | F registerfinalizer        |
| F enableinteraction |       | F registerinitializer      |
| F enhance           |       | F registerpage             |
| D executers         |       | F reportproblems           |
| F expandcurrent     |       | F reset                    |
| F export            |       | D runners                  |
| T files             |       | F set                      |
| T data              |       | F setandgetattribute       |
| F define            |       | F setcomponent             |
| F found             |       | F setinnermethod           |
| F get               |       | F setinternalreference     |
| F filter            |       | F setnextinternal          |
| F filterdefault     |       | F setnextorder             |

| F setreferencerealpage             | F setmethod           |     |
|------------------------------------|-----------------------|-----|
| D specials                         | F sort                |     |
| F splitcomponent                   | F store               |     |
| F splitprefix                      | D tobesaved           |     |
| F splitreference                   | F unique              |     |
| F synchronizepage                  | F userdata            |     |
| T testrunners                      | <b>sections</b> tak   | ole |
| F inner                            | F autodepth           |     |
| F special                          | F cct                 |     |
| F special operation                | D collected           |     |
| F special operation with arguments | F current             |     |
| T testspecials                     | F currentblock        |     |
| F deltapage                        | F currentid           |     |
| Fi                                 | F currentlevel        |     |
| F internal                         | F currentsectionindex |     |
| F page                             | F depthnumber         |     |
| F realpage                         | F finddata            |     |
| F section                          | F findnumber          |     |
| F userpage                         | F fullnumber          |     |
| D tobereferred                     | F getcurrentlevel     |     |
| D tobesaved                        | F getlevel            |     |
| D tracedpages                      | F getnumber           |     |
| T urls                             | F internalreference   |     |
| T data                             | D levelmap            |     |
| F define                           | D levels              |     |
| F found                            | F load                |     |
| F get                              | F matchingtilldepth   |     |
| D usedinternals                    | F numberatdepth       |     |
| D usedviews                        | F numbers             |     |
| F valid                            | F popblock            |     |
| <b>registers</b> table             | F prefixedconverted   |     |
| F analyze                          | F pushblock           |     |
| D collected                        | F register            |     |
| F compare                          | D registered          |     |
| F define                           | F reportstructure     |     |
| F enhance                          | F save                |     |
| F extend                           | T sectionblockdata    |     |
| F filter                           | T bodypart            |     |
| F filtercollected                  | S bookmark            |     |
| F finalize                         | F set                 |     |
| F flush                            | F setblock            |     |
| F get                              | F setchecker          |     |
| F prepare                          | F setentry            |     |
| F process                          | F setinitialblock     |     |
|                                    |                       |     |

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

### table (basic lua)

| allkeys         | function | sequenced            | function |
|-----------------|----------|----------------------|----------|
| append          | function | serialize            | function |
| are_equal       | function | setmetatablecall     | function |
| autokey         | function | setmetatableindex    | function |
| compact         | function | setmetatablekey      | function |
| concat          | function | setmetatablenewindex | function |
| contains        | function | sort                 | function |
| сору            | function | sorted               | function |
| count           | function | sortedhash           | function |
| derive          | function | sortedhashkeys       | function |
| deserialize     | function | sortedhashonly       | function |
| drop            | function | sortedindexonly      | function |
| fastcopy        | function | sortedkeys           | function |
| fastserialize   | function | sortedpairs          | function |
| filtered        | function | sparse               | function |
| flattened       | function | strip                | function |
| foreach         | function | sub                  | function |
| foreachi        | function | swapped              | function |
| fromhash        | function | tocontext            | function |
| getmetatablekey | function | tocsv                | function |
| getn            | function | tofile               | function |
| has_one_entry   | function | tohandle             | function |
| identical       | function | tohash               | function |
| imerge          | function | toxml                | function |
| imerged         | function | twowaymapper         | function |
| insert          | function | unique               | function |
| is_empty        | function | unnest               | function |
| keys            | function | unpack               | function |
| load            | function | values               | function |
| loweredkeys     | function |                      |          |
| maxn            | function |                      |          |
| merge           | function |                      |          |
| merged          | function |                      |          |
| mirrored        | function |                      |          |
| pack            | function |                      |          |
| prepend         | function |                      |          |
| print           | function |                      |          |
| remove          | function |                      |          |
| reverse         | function |                      |          |
| reversed        | function |                      |          |
| save            | function |                      |          |

# tex (basic tex)

| att of but a              | +ablo             | : 6                        | data table           |
|---------------------------|-------------------|----------------------------|----------------------|
| attribute<br>badness      | table<br>function | ifs<br>inicatcodes         | data table           |
| box box                   | table             |                            | number<br>function   |
|                           |                   | init_rand                  |                      |
| catcode                   | table             | isattribute                | function             |
| conditionals              | data table        | isbox                      | function             |
| constants                 | data table        | iscount                    | overloaded function  |
| count                     | table             | isdefined                  | function             |
| ctdcatcodes               | number            | isdimen                    | overloaded function  |
| ctxcatcodes               | number            | ismuskip                   | overloaded function  |
| definefont                | function          | isskip                     | overloaded function  |
| delcode                   | table             | istoken                    | function             |
| dimen                     | table             | istoks                     | function             |
| directives                | data table        | lccode                     | table                |
| enableprimitives          | function          | linebreak                  | function             |
| error                     | function          | lists                      | table                |
| extraprimitives           | function          | lua_math_random            | function<br>function |
| finish                    | function          | lua_math_randomseed        |                      |
| fontidentifier            | function          | luacatcodes                | number<br>table      |
| fontname                  | function          | mathcode                   | 10010                |
| fprint                    | function function | modes                      | data table<br>table  |
| get                       | function          | muskip                     | table                |
| getattribute              | function          | nest<br>nilcatcodes        | number               |
| getbox                    | function          |                            | function             |
| getboxresourcedimensions  | function          | normal_rand<br>notcatcodes | number               |
| getcatcode                | function          | notcatcodes                | function             |
| getcount                  | function          |                            | function             |
| getdelcode<br>getdelcodes | function          | primitives<br>print        | function             |
| getdimen                  | function          | print                      | number               |
| getlccode                 | function          | romannumeral               | function             |
| getlist                   | function          | round                      | function             |
| getmath                   | function          | run                        | function             |
| getmathcode               | function          | saveboxresource            | function             |
| getmathcodes              | function          | scale                      | function             |
| getmuskip                 | function          | scarte                     | function             |
| getnest                   | function          | set                        | function             |
| getsfcode                 | function          | setattribute               | function             |
|                           | function          | setbox                     | function             |
| getskip<br>gettoks        | function          | setcatcode                 | function             |
| getuccode                 | function          | setcount                   | function             |
| •                         |                   |                            |                      |
| hashtokens                | function          | setdelcode                 | function             |

function setdimen setlccode function setlist function setmath function setmathcode function setmuskip function setnest function setsfcode function setskip function settoks function setuccode function sfcode table shipout function show context function table skip function sp function sprint systemmodes data table function takebox texcatcodes number toks table tpacatcodes number tpbcatcodes number tprint function trackers data table triggerbuildpage function txtcatcodes number function type table uccode uniform rand function uniformdeviate function uprint function useboxresource function vrbcatcodes number

write

function

### texconfig (basic tex)

error\_line number expand depth number formatname string half\_error\_line number hash\_extra number init

overloaded function

kpse init boolean max\_in\_open number max\_print\_line number max\_strings number nest\_size number param\_size number save size number shell escape string

stack\_size overloaded number

## texio (basic tex)

setescape function
write function
write\_nl function

# tokens (context)

| astable    | function | egroup      | userdata |
|------------|----------|-------------|----------|
| bgroup     | userdata | getters     | table    |
| bits       | table    | F box       |          |
| N active   |          | F count     |          |
| N alignmer | nt       | F dimen     |          |
| N begingro | oup      | F token     |          |
| N characte | er       | hbox        | userdata |
| N close    |          | istoken     | function |
| N comment  |          | letter      | function |
| N endgroup | )        | letters     | function |
| N endoflir | ne       | other       | function |
| N escape   |          | pickup      | function |
| N ignore   |          | printlist   | function |
| N invalid  |          | scanners    | table    |
| N letter   |          | F boolean   |          |
| N mathshif | t        | F code      |          |
| N open     |          | F condition | onal     |
| N other    |          | F count     |          |
| N paramete | er       | F csname    |          |
| N space    |          | F dimen     |          |
| N subscrip | ot       | F dimension | on       |
| N superscr | ript     | F glue      |          |
| N whitespa | ice      | F integer   |          |
| collectors | table    | F keyword   |          |
| T data     |          | F list      |          |
| F defaultv | vords    | F lxmlid    |          |
| F dowithwo | ords     | F number    |          |
| F flush    |          | F scanclos  | se       |
| F install  |          | F scanoper  | 1        |
| F register | -        | F skip      |          |
| T register | red      | F string    |          |
| F show     |          | F token     |          |
| F test     |          | F tokens    |          |
| compile    | function | F toks      |          |
| constant   | function | F word      |          |
| converters | table    | scantable   | function |
| S toboolea | n        | setters     | table    |
| S todimen  |          | F box       |          |
| S toglue   |          | F count     |          |
| S tonumber | -        | F dimen     |          |
| S tostring | J        | F macro     |          |

| shortcuts table  | F glue  |
|--|---|
| T bits   | F integer   |
| N active   | F keyword   |
| N alignment  | F list  |
| N begingroup   | F lxmlid  |
| N character  | F number  |
| N close  | F scanclose   |
| N comment  | F scanopen  |
| N endgroup   | F skip  |
| N endofline  | F string  |
| N escape   | F token   |
| N ignore   | F tokens  |
| N invalid  | F toks  |
| N letter   | F word  |
| N mathshift  | F scannumber  |
| N open   | F scanopen  |
| N other  | F scanstring  |
| N parameter  | F scanword  |
| N space  | F toboolean   |
| N subscript  | F todimen   |
| N superscript  | T tokens  |
| N whitespace   | F astable   |
| N close  | U bgroup  |
| F inspect  | T collectors  |
| N open   | F defaultwords  |
| F report   | F dowithwords   |
| F scanboolean  | F flush   |
| F scanclose  | F install   |
| F scancode   | F register  |
| F scanconditional  | F show  |
| F scancsname   | F test  |
| F scandimen  | F compile   |
| F scandimension  | F constant  |
| F scaninteger  | T converters  |
| F scankeyword  | S toboolean   |
|  |   |
| F scanlist   | S todimen   |
| T scanners   | S toglue  |
| T scanners<br>F boolean                                    | S toglue<br>S tonumber                                  |
| T scanners F boolean F code                                | S toglue<br>S tonumber<br>S tostring                    |
| T scanners F boolean F code F conditional                  | S toglue<br>S tonumber<br>S tostring<br>U egroup        |
| T scanners F boolean F code F conditional F count          | S toglue S tonumber S tostring U egroup T getters       |
| T scanners F boolean F code F conditional F count F csname | S toglue S tonumber S tostring U egroup T getters F box |
| T scanners F boolean F code F conditional F count          | S toglue S tonumber S tostring U egroup T getters       |

| Ft     | oken               |
|--------|--------------------|
| U hb   | οx                 |
| F is   | token              |
| F le   | tter               |
| F le   | tters              |
| F otl  | her                |
| F pi   | ckup               |
| F pr   | intlist            |
| Fsc    | antable            |
| T se   | tters              |
| Fb     | oox                |
| Fo     | count              |
| Fo     | limen              |
| Fn     | nacro              |
| T sh   | ortcuts            |
| N c    | close              |
| Fi     | nspect             |
| N c    | pen                |
| Fr     | report             |
| Fs     | canboolean         |
| Fs     | canclose           |
| Fs     | cancode            |
|        | canconditional     |
|        | cancsname          |
|        | candimen           |
|        | candimension       |
|        | caninteger         |
|        | cankeyword         |
|        | canlist            |
|        | cannumber          |
|        | canopen            |
|        | canstring          |
|        | scanword           |
|        | oboolean<br>odimen |
|        |                    |
|        | conumber           |
| U vb   | ostring            |
| U vt   |                    |
| F tonu | •                  |
| F tost |                    |
| vbox   | userdata           |
| vtop   | userdata           |

#### tracers (context)

count function
cs function
dimen function
knownlist function
lists table

T context
T internals
T scratch

name function
primitive function
printerror function
printwarning function
showlines function
strings table

S undefined

toks function
type function

# trackers (context)

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

# typesetters (context)

| alianments       | table | T handlers        |       |
|------------------|-------|-------------------|-------|
| alignments       | table | T handlers        |       |
| F handler        |       | F installhandler  |       |
| F set            | +ahla | F processmath     |       |
| breakpoints      | table | F set             |       |
| F define         |       | F setcolor        |       |
| F handler        |       | F setmath         |       |
| D mapping        |       | F tomode          | 4-bl- |
| T methods        |       | firstlines        | table |
| T numbers        |       | T actions         |       |
| F set            |       | F default         |       |
| F setreplacement |       | F line            |       |
| cases            | table | F word            |       |
| T actions        |       | F handler         |       |
| F handler        |       | F set             |       |
| F register       |       | initials          | table |
| F set            |       | T actions         |       |
| characteralign   | table | F default         |       |
| F handler        |       | F addanchortoline |       |
| F resetcharacter | align | F addtoline       |       |
| F setcharacteral |       | F calculatedelta  |       |
| characters       | table | F checkline       |       |
| F handler        |       | F handler         |       |
| T methods        |       | F moveinline      |       |
| F replacenbsp    |       | F normalize       |       |
| F replacenbspace |       | F set             |       |
| checkers         | table | injectors         | table |
| F handler        |       | F check           |       |
| F reset          |       | T list            |       |
| F set            |       | F mark            |       |
| cleaners         | table | F reset           |       |
| F handler        |       | F set             |       |
| F set            |       | F show            |       |
| digits           | table | italics           | table |
| T actions        |       | F forcevariant    |       |
| F handler        |       | F handler         |       |
| F set            |       | F reset           |       |
| directions       | table | F set             |       |
| F getfences      |       | kerns             | table |
| F getglobal      |       | D factors         |       |
| F getmethod      |       | F handler         |       |
| F handler        |       | F keepligature    |       |
|                  |       |                   |       |

spacings B keeptogether D mapping F set manipulators table F apply F applyspecification T methods F Word F Words F abbreviatedjournal F reset F set F expandedjournal F lowercase F setup F stripperiod wrappers F uppercase xtables T patterns U list U pair F splitspecification margins table F finalhandler F flush F globalhandler F ha F localhandler F save function marksuspects paragraphs table F addanchortoline F addtoline F calculatedelta F checkline F handler F moveinline F normalize F set table processors F apply F register F reset F split F startapply F stopapply F stripped F tostring

showsuspects

function

F define F handler D mapping T numbers T frenchpunctuation T characters S name N number table F handler table F cleanup F construct F create F finish row 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

table

# unicode (extra lua)

| ascii    | table F | len        |
|----------|---------|------------|
| F byte   | F       | lower      |
| F char   | F       | match      |
| F dump   | F       | rep        |
| F find   | F       | reverse    |
| F format | F       | sub        |
| F gfind  | F       | upper      |
| F gmatch | utf8    | table      |
| F gsub   | F       | byte       |
| F len    | F       | char       |
| F lower  | F       | characters |
| F match  | F       | chrlen     |
| F rep    | F       | count      |
| F revers | e F     | dump       |
| F sub    | F       | filetype   |
| F upper  |         | find       |
| grapheme |         | format     |
| F byte   | F       | gfind      |
| F char   | F       | gmatch     |
| F dump   |         | gsub       |
| F find   |         | is_valid   |
| F format |         | len        |
| F gfind  | F       | length     |
| F gmatch | F       | lower      |
| F gsub   |         | magic      |
| F len    | F       | match      |
| F lower  |         | remapper   |
| F match  | F       | rep        |
| F rep    |         | replacer   |
| F revers |         | reverse    |
| F sub    |         | split      |
| F upper  |         | splitlines |
| latin1   |         | sub        |
| F byte   |         | subtituter |
| F char   |         | tocodes    |
| F dump   |         | toeight    |
| F find   |         | toentities |
| F format |         | tostring   |
| F gfind  |         | totable    |
| F gmatch |         | upper      |
| F gsub   | F       | ustring    |

- F utf16\_to\_utf8\_be
- F utf16\_to\_utf8\_be\_t
- F utf16\_to\_utf8\_le
- F utf16\_to\_utf8\_le\_t
- F utf16\_to\_utf8\_t
- F utf32\_to\_utf8\_be
- F utf32\_to\_utf8\_be\_t
- F utf32\_to\_utf8\_le F utf32\_to\_utf8\_le\_t
- F utf32\_to\_utf8\_t
- F utf8\_to\_utf16
- F utf8\_to\_utf16\_be
- F utf8\_to\_utf16\_le
- F utf8\_to\_utf8\_t
- F values
- F xstring

# url (context)

| addscheme   | function |
|-------------|----------|
| barepath    | function |
| construct   | function |
| escape      | function |
| filename    | function |
| hashed      | function |
| hasscheme   | function |
| query       | function |
| split       | function |
| toquery     | function |
| unescapeget | function |

# utilities (context)

| dohuggor              | table | D alunyaat ninaada      |
|-----------------------|-------|-------------------------|
| debugger              | table | B alwaysstripcode       |
| F disable<br>F enable |       | F compile               |
| F savestats           |       | F loadedluacode         |
|                       |       | F loadstripped          |
| F showstats           |       | N nofstrippedbytes      |
| F showtraceback files | table | N nofstrippedchunks     |
|                       | table | B stripcode             |
| F close               |       | T strippedchunks        |
| F getposition         |       | F strippedloadstring    |
| F look                |       | T suffixes              |
| F open                |       | S lua                   |
| F read2dot14          |       | S luc                   |
| F readbyte            |       | S lui                   |
| F readbytes           |       | S luj                   |
| F readcardinal        |       | S luv                   |
| F readcardinal1       |       | S tma                   |
| F readcardinal2       |       | S tmc                   |
| F readcardinal3       |       | S tua                   |
| F readcardinal4       |       | S tuc                   |
| F readchar            |       | packers table           |
| F readfixed4          |       | F hashed                |
| F readinteger         |       | F new                   |
| F readinteger1        |       | F pack                  |
| F readinteger2        |       | F simplehashed          |
| F readinteger4        |       | F strip                 |
| F readstring          |       | F unpack                |
| F readtag             |       | N version               |
| F setposition         |       | parsers table           |
| F size                |       | F add_settings_to_array |
| F skip                |       | F arguments_to_table    |
| F skiplong            |       | F array_to_string       |
| F skipshort           |       | F csvsplitter           |
| formatters            | table | F getparameters         |
| F formatcolumns       |       | F groupedsplitat        |
| F list                |       | F hash_to_string        |
| F stripzeros          |       | T hashes                |
| garbagecollector      | table | T settings_to_set       |
| F check               |       | T max,fit,broad,auto    |
| N criterium           |       | B auto                  |
| B enabled             |       | B broad                 |
| lua                   | table | B fit                   |

| B max   |  | F enableaction   |                |
|---|--|--|----------------|
| T text,hidden,  | paper,page,leftpage,rightpage  | F enablegroup  |                |
| B hidden  |  | D functions  |                |
| B leftpage  |  | F localize   |                |
| B page  |  | F new  |                |
| B paper   |  | F nodeprocessor  |                |
| B rightpage   |  | F prependaction  |                |
| B text  |  | F prependgroup   |                |
| F iterator  |  | F removeaction   |                |
| F keq_to_hash   |  | F replaceaction  |                |
| F listitem  |  | F setkind  |                |
| F make_settings_t   | o_hash_pattern   | F tostring   |                |
| F mergehashes   |  | setters  | table          |
| F options_to_arra   | у  | F disable  |                |
| F options_to_hash   |  | F enable   |                |
| T patterns  |  | F initialize   |                |
| U settings_to_a   | rray   | F list   |                |
| U settings_to_ha  | ash_a  | F new  |                |
| U settings_to_ha  | ash_b  | F register   |                |
| U settings_to_ha  | ash_c  | F report   |                |
| U unittotex   |  | F reset  |                |
| F process_strippe   | d_settings   | F show   |                |
| r   | _  |  |                |
| F rfc4180splitter   |  | stacker  | table          |
|   |  | <b>stacker</b><br>F new  | table          |
| F rfc4180splitter   |  |  | table<br>table |
| F rfc4180splitter<br>F runtime  | ay   | F new  |                |
| F rfc4180splitter<br>F runtime<br>F settings_to_arr   | ay<br>ay_with_repeat   | F new storage  |                |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_arr   | ay<br>ay_with_repeat<br>h  | F new <b>storage</b> F allocate  |                |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_arr F settings_to_has   | ay<br>ay_with_repeat<br>h<br>h_strict                                  | F new  Storage  F allocate  F checked  |                |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has   | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant                    | F new  storage  F allocate  F checked  F mark  |                |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has   | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant                    | F new  storage  F allocate  F checked  F mark  F marked  |                |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_set   | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant                    | F new  Storage  F allocate  F checked  F mark  F marked  F setinitializer  |                |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_   | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant                    | F new  Storage  F allocate  F checked  F mark  F marked  F setinitializer  F sparse  | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod   | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant                    | F new  storage  F allocate  F checked  F mark  F marked  F setinitializer  F sparse  streams   | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands  | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant<br>string          | F new  storage  F allocate F checked F mark F marked F setinitializer F sparse  streams F close  | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper  | ay<br>ay_with_repeat<br>h<br>h_strict<br>h_tolerant<br>string          | F new  storage  F allocate  F checked  F mark  F marked  F setinitializer  F sparse  streams  F close  F getposition   | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex F unittoxml  | ay  ay_with_repeat  h h_strict h_tolerant  string  gs_to_array         | F new  storage  F allocate  F checked  F mark  F marked  F setinitializer  F sparse  streams  F close  F getposition  F look   | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex  | ay  ay_with_repeat h h_strict h_tolerant string  gs_to_array  function | F new  storage  F allocate  F checked  F mark  F marked  F setinitializer  F sparse  streams  F close  F getposition  F look  F open   | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex F unittoxml  report  sequencers                                      | ay  ay_with_repeat  h h_strict h_tolerant  string  gs_to_array         | F new  storage  F allocate F checked F mark F marked F setinitializer F sparse  streams F close F getposition F look F open F read2dot14 F readbyte F readbytes                                | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex F unittoxml  report  sequencers F appendaction                       | ay  ay_with_repeat h h_strict h_tolerant string  gs_to_array  function | F new  storage  F allocate  F checked  F mark  F marked  F setinitializer  F sparse  streams  F close  F getposition  F look  F open  F read2dot14  F readbyte  F readbytes  F readcardinal    | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex F unittoxml  report  sequencers F appendaction F appendgroup         | ay  ay_with_repeat h h_strict h_tolerant string  gs_to_array  function | F new  storage  F allocate F checked F mark F marked F setinitializer F sparse  streams F close F getposition F look F open F read2dot14 F readbyte F readbytes F readcardinal F readcardinal  | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex F unittoxml report sequencers F appendaction F appendgroup F compile | ay  ay_with_repeat h h_strict h_tolerant string  gs_to_array  function | F new  storage  F allocate F checked F mark F marked F setinitializer F sparse  streams F close F getposition F look F open F read2dot14 F readbyte F readbytes F readcardinal F readcardinal2 | table          |
| F rfc4180splitter F runtime F settings_to_arr F settings_to_has F settings_to_has F settings_to_has F settings_to_has F settings_to_set F simple_hash_to_ F splitmethod F splitthousands F stepper F stripped_settin F unittotex F unittoxml  report  sequencers F appendaction F appendgroup         | ay  ay_with_repeat h h_strict h_tolerant string  gs_to_array  function | F new  storage  F allocate F checked F mark F marked F setinitializer F sparse  streams F close F getposition F look F open F read2dot14 F readbyte F readbytes F readcardinal F readcardinal  | table          |

F readchar F replace F readfixed4 F replacer F readinteger F resolve F readinteger1 F readinteger2 F readinteger4 F readstring F setposition F size F skip F skipbytes F skiplong F skipshort strings table F collapsecrlf T formatters F add F new 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 tables table F accesstable F definedtable F definetable F encapsulate F insertaftervalue F insertbeforevalue F migratetable F removevalue F replacevalue templates table

F load

#### vf (context)

```
function
char
down
        function
fontid
        function
image
        function
node
        function
nop
        function
pop
        function
push
        function
right
        function
        function
rule
special function
```

# visualizers (context)

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

# xml (context)

| addontitiondontyno      | function | D =====d::::1                     |                    |
|-------------------------|----------|-----------------------------------|--------------------|
| addentitiesdoctype      | function | D parsedxml                       |                    |
| addspecialcode<br>after | function | D string<br>D tex                 |                    |
| all                     | function | ν tex<br>D texline                |                    |
|                         | function |                                   |                    |
| applylpath<br>assign    | function | D texspace                        |                    |
| assign<br>attribute     | function | D verbose                         | string             |
| badinclusions           | function | defaultprotocol<br>delete         | string<br>function |
| before                  | function |                                   | function           |
|                         | function | <del>delete_element</del><br>each | function           |
| body                    |          |                                   |                    |
| builtinentities         | table    | each_element                      | function           |
| B amp                   |          | elements                          | function           |
| B apos                  |          | elementtocdata                    | function           |
| B gt                    |          | empty                             | function           |
| B lt                    |          | entities                          | data table         |
| B quot                  |          | erase                             | function           |
| cdata                   | function | errorhandler                      | function           |
| cdatatotext             | function | escaped                           | function           |
| checkbom<br>            | function | expressions                       | table              |
| checkerror              | function | F boolean                         |                    |
| checknamespace<br>      | function | F child                           |                    |
| checkns                 | function | F contains                        |                    |
| cleansed                | function | F count                           |                    |
| collect                 | function | F error                           |                    |
| collect_elements        | function | F find                            |                    |
| collect_tags            | function | F idstring                        |                    |
| collect_texts           | function | F lower                           |                    |
| collected               | function | F name                            |                    |
| collecttexts            | function | F number                          |                    |
| content                 | function | F oneof                           |                    |
| convert                 | function | F print                           |                    |
| сору                    | function | F quit                            |                    |
| count                   | function | F tag                             |                    |
| cprint                  | function | F text                            |                    |
| CSS                     | table    | F undefined                       |                    |
| F colorspecification    |          | F upper                           |                    |
| F dimension             |          | fillin                            | function           |
| F fontspecification     |          | filter                            | function           |
| F padding               |          | finalizers                        | table              |
| defaulthandlers         | table    | F paragraphs                      |                    |
| D file                  |          | T tex                             |                    |
|                         |          |                                   |                    |

| F all            | F name                          |          |
|------------------|---------------------------------|----------|
| F attribute      | F position                      |          |
| F chainattribute | F reverse                       |          |
| F command        | F table                         |          |
| F concat         | F tag                           |          |
| F concatrange    | F tags                          |          |
| F context        | F text                          |          |
| F count          | F texts                         |          |
| F ctxtext        | F upperall                      |          |
| F default        | first                           | function |
| F first          | found                           | function |
| F function       | functions                       | table    |
| F index          | getbuffer                       | function |
| F last           | gethandlers                     | function |
| F lettered       | gethandlersfunction             | function |
| F lower          | helpers                         | table    |
| F lowerall       | F recursetext                   |          |
| F match          | include                         | function |
| F name           | inclusion                       | function |
| F position       | inclusions                      | function |
| F reverse        | index                           | function |
| F stripped       | inheritedconvert                | function |
| F tag            | inject                          | function |
| F tags           | <del>inject_element</del>       | function |
| F text           | <del>inject_element_after</del> | function |
| F upper          | <u>inject_element_before</u>    | function |
| F upperall       | injectafter                     | function |
| T xml            | injectbefore                    | function |
| F all            | insert                          | function |
| F att            | insert_element                  | function |
| F attribute      | <u>insert_element_after</u>     | function |
| F attributes     | <u>insert_element_before</u>    | function |
| F cdata          | insertafter                     | function |
| F chainattribute | insertbefore                    | function |
| F count          | insertcdata                     | function |
| F default        | insertcomment                   | function |
| F elements       | inspect                         | function |
| F empty          | is_valid                        | function |
| F first          | kind                            | function |
| F function       | last                            | function |
| F index          | load                            | function |
| F last           | lpath                           | function |
| F lowerall       | lpathcached                     | function |
| F match          | lpathcalls                      | function |
|                  |                                 |          |

| lshow                | function            | serialize                   | function        |
|----------------------|---------------------|-----------------------------|-----------------|
| makestandalone       | function            | setcdata                    | function        |
| match                | function            | setcomment                  | function        |
| name                 | function            | sethandlersfunction         | function        |
| newhandlers          | function            | setinjectors                | function        |
| nodesettostring      | function            | setproperty                 | function        |
| originalload         | function            | settings                    | function        |
| package              | function            | specialcodes                | table           |
| parent               | function            | S "                         |                 |
| parsedentitylpeg     | userdata            | S #                         |                 |
| pihandlers           | table               | S \$                        |                 |
| F injector           |                     | S %                         |                 |
| placeholders         | table               | S &                         |                 |
| F unknown_any_entity |                     | S '                         |                 |
| F unknown_dec_entity |                     | S <                         |                 |
| F unknown_hex_entity |                     | S >                         |                 |
| position             | function            | S \                         |                 |
| privatecodes         | table               | S {                         |                 |
| privatetoken         | function            | S                           |                 |
| process              | function            | S }                         |                 |
| process_attributes   | function            | S ~                         |                 |
| process_elements     | <del>function</del> | specialhandler              | table           |
| processattributes    | function            | sprint                      | function        |
| profiled             | table               | string                      | function        |
| raw                  | function            | strip                       | function        |
| registerentity       | function            | <pre>strip_whitespace</pre> | <b>function</b> |
| registerns           | function            | stripelement                | function        |
| reindex              | function            | stripleadingspaces          | function        |
| remap_name           | <del>function</del> | table                       | function        |
| remap_namespace      | <del>function</del> | text                        | function        |
| remap_tag            | <del>function</del> | textonly                    | function        |
| remapname            | function            | texttocdata                 | function        |
| remapnamespace       | function            | tocdata                     | function        |
| remaptag             | function            | toelement                   | function        |
| renamespace          | function            | tostring                    | function        |
| reparsedentitylpeg   | userdata            | totable                     | function        |
| replace              | function            | toxml                       | function        |
| replace_element      | function            | tprint                      | function        |
| resetinjectors       | function            | traverse                    | function        |
| resolvens            | function            | unescaped                   | function        |
| root                 | function            | unprivatized                | function        |
| save                 | function            | unspecialized               | function        |
| selection            | function            | withelement                 | function        |
| separate             | function            | withelements                | function        |
|                      |                     |                             |                 |

wrap xmlns function
table

#### zip (extra lua)

archives table close function closearchive function

openarchive function
openfile function
registeredfiles table
type function

# zlib (extra lua)

| adler32       | function |  |
|---------------|----------|--|
| compress      | function |  |
| compressobj   | function |  |
| crc32         | function |  |
| decompress    | function |  |
| decompressobj | function |  |
| version       | function |  |