

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

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

# global (alias: \_G)

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

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

utf  
utilities  
v  
vf  
visualizers

table  
table  
number  
table  
table

xml  
xpcall  
zip  
zlib

table  
function  
table  
table

# attributes (context)

## colorintents table

- N attribute
- D data
- F enable
- F handler
- F register
- D registered

## colors table

- N attribute
- F cmyk
- F cmyktogray
- F cmyktorgb
- F colorcomponents
- D counts
- B couple
- F currentmodel
- F currentnamedmodel
- D data
- N default
- F defineintermediatecolor
- F definemultitonecolor
- F defineprocesscolor
- F definesimplegray
- F definespotcolor
- F definetransparency
- F enable
- F filter
- F forcedmodel
- F forcesupport
- F formatcolor
- F formatgray
- F getpagecolormodel
- F gray
- F graytohsv
- F handler
- F hsvtogray
- F hsvtorgb
- F iccprofile
- F isblack
- N main
- S model

- D models
- F mpcolor
- F mpnamedcolor
- F mpoptions
- F namedcolorattributes
- N none
- F popset
- F processcolorcomponents
- F pushset
- F register
- D registered
- F registerspotcolor
- F rgb
- F rgbtocmyk
- F rgbtogray
- F rgbtohsv
- N selector
- F setlist
- F setmodel
- F setpagecolormodel
- D sets
- F spec
- F spot
- F spotcolorname
- F spotcolorparent
- F spotcolorvalue
- B supported
- F toattributes
- F transparencycomponents
- B triggering
- F usecolors
- D valid
- F value
- D values
- B weightgray

define

effects

function

table

- N attribute
- D data
- F enable
- F handler

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

# backends (context)

## **codeinjections** table

F boxresourcedimensions  
F registerboxresource  
F restoreboxresource

## **current** string

## **defaults** table

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

## **included** table

B context  
B date  
B id  
B metadata  
B pdf

## **install** function

## **nodeinjections** table

F restore  
F save  
F transform

## **nothing** function

## **pdf** table

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

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

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

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

T tables

D vfpspecials

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



## bit32 (basic lua)

**arshift** function  
**band** function  
**bnot** function  
**bor** function  
**btest** function  
**bxor** function

**extract** function  
**lrotate** function  
**lshift** function  
**replace** function  
**rrotate** function  
**rshift** function

## blobs (context)

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

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

## boolean (context)

**tocontext** function

**tonumber** function

# buffers (context)

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

# builders (context)

## kernel table

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

## paragraphs table

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

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

## profiling table

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

## vspacing table

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

## cache (context)

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

## callback (basic tex)

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

**register** overloaded function

# callbacks (context)

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



## catcodes (context)

**names** data table

**numbers** data table

**register** function

characters (context)

[illegible]

$S E_+$   
 $S F'$   
 $S G'$   
 $S G^{\wedge}$   
 $S G^{-}$   
 $S G^{-}$   
 $S G'$   
 $S G^{\vee}$   
 $S G_+$   
 $S H^{\wedge}$   
 $S H'$   
 $S H''$   
 $S H^{\vee}$   
 $S H_+$   
 $S H_+$   
 $S H_+$   
 $S I^{\backslash}$   
 $S I'$   
 $S I^{\wedge}$   
 $S I^{-}$   
 $S I^{-}$   
 $S I^{-}$   
 $S I'$   
 $S I''$   
 $S I'''$   
 $S I'$   
 $S I'$   
 $S I^{\vee}$   
 $S I^{-}$   
 $S I_+$   
 $S I_+$   
 $S I_+$   
 $S J^{\wedge}$   
 $S K'$   
 $S K^{\vee}$   
 $S K_+$   
 $S K_+$   
 $S K_+$   
 $S L'$   
 $S L^{\vee}$   
 $S L_+$   
 $S L_+^{-}$   
 $S L_+$   
 $S L_+$

$S L_+$   
 $S M'$   
 $S M'$   
 $S M_+$   
 $S N^{\backslash}$   
 $S N'$   
 $S N''$   
 $S N'$   
 $S N^{\vee}$   
 $S N_+$   
 $S N_+$   
 $S N_+$   
 $S N_+$   
 $S O^{\backslash}$   
 $S O'$   
 $S O^{\wedge}$   
 $S O^{\wedge\backslash}$   
 $S O^{\wedge'}$   
 $S O^{\wedge''}$   
 $S O^{\wedge'}$   
 $S O''$   
 $S O'''$   
 $S O^{-}$   
 $S O^{-\backslash}$   
 $S O^{-'}$   
 $S O^{\vee}$   
 $S O'$   
 $S O'^{-}$   
 $S O''$   
 $S O''^{-}$   
 $S O^{\flat}$   
 $S O^{\flat}$   
 $S O^{\flat}$   
 $S O^{\flat}$   
 $S O^{\flat}$   
 $S O^{\flat\backslash}$   
 $S O^{\flat'}$   
 $S O^{\flat''}$   
 $S O^{\flat'}$   
 $S O^{\flat_+}$   
 $S O_+$





[illegible]

|                    |                  |
|--------------------|------------------|
| S s <sub>1</sub> ´ | S w´             |
| S s <sub>1</sub>   | S w^             |
| S s <sub>1</sub>   | S w´             |
| S t´               | S w¨             |
| S t¨               | S w°             |
| S t˘               | S w <sub>1</sub> |
| S t <sub>1</sub>   | S x´             |
| S t <sub>1</sub>   | S x¨             |
| S t <sub>1</sub>   | S y`             |
| S t <sub>1</sub>   | S y´             |
| S t <sub>1</sub>   | S y^             |
| S u`               | S y¨             |
| S u´               | S y¯             |
| S u^               | S y´             |
| S u¨               | S y¨             |
| S u¨´              | S y³             |
| S u¯               | S y°             |
| S u¨¨              | S y <sub>1</sub> |
| S u˘               | S z´             |
| S u¨               | S z^             |
| S u¨`              | S z´             |
| S u¨´              | S z˘             |
| S u¨¨              | S z <sub>1</sub> |
| S u¨˘              | S z <sub>1</sub> |
| S u³               | S ¨`             |
| S u°               | S ¨´             |
| S u¨               | S ¨              |
| S u˘               | S Å`             |
| S u¨               | S Å´             |
| S u¨               | S Å¨             |
| S u´               | S Å´             |
| S u´`              | S Å¯             |
| S u´´              | S Å´             |
| S u´¨              | S Æ´             |
| S u´³              | S Æ¯             |
| S u´ <sub>1</sub>  | S Ç´             |
| S u <sub>1</sub>   | S Ê`             |
| S u <sub>1</sub>   | S Ê´             |
| S u <sub>1</sub>   | S Ê¨             |
| S u <sub>1</sub>   | S Ê³             |
| S u <sub>1</sub>   | S Ĩ´             |
| S v¨               | S Ò`             |
| S v <sub>1</sub>   | S Ò´             |
| S w`               | S Ò¨             |

|       |      |
|-------|------|
| S 0̇  | S ä́ |
| S 0̈́ | S Ě̀ |
| S 0̈́ | S Ě́ |
| S 0̈́ | S ě̀ |
| S 0̈́ | S ě́ |
| S Ǿ  | S 0̀ |
| S Ǜ  | S 0́ |
| S Ǘ  | S 0̀ |
| S Ǜ  | S 0́ |
| S Ǘ  | S Š́ |
| S à̀  | S š́ |
| S à́  | S Š́ |
| S ầ  | S š́ |
| S ấ  | S Ů́ |
| S ä̀  | S ů́ |
| S ǻ  | S Ů̀ |
| S ǽ  | S ů̀ |
| S æ̀  | S ı́ |
| S ḉ  | S 0̀ |
| S ề  | S 0́ |
| S ế  | S 0̀ |
| S ề  | S 0́ |
| S ế  | S Œ̀ |
| S ĩ́  | S Œ́ |
| S ồ  | S Œ̀ |
| S ố  | S Œ́ |
| S ồ  | S Œ̀ |
| S ố  | S Œ́ |
| S õ̀  | S Ũ̀ |
| S ṍ  | S Ṹ |
| S õ̀  | S Ũ̀ |
| S ṍ  | S Ṹ |
| S ǿ  | S Ũ̀ |
| S ǜ  | S Ṹ |
| S ǘ  | S Ũ̀ |
| S ǜ  | S Ṹ |
| S ǘ  | S Ũ̀ |
| S Ä̀  | S Ṹ |
| S Ä́  | S Ũ̀ |
| S Ä̀  | S Ṹ |
| S Ä́  | S Ũ̀ |
| S ằ  | S Ṹ |
| S ắ  | S Ũ̀ |
| S ằ  | S Ṹ |



|                    |                      |
|--------------------|----------------------|
| S $\varrho^{\sim}$ | S H'                 |
| S $\dot{0}^{\sim}$ | S H''\`              |
| S $\dot{0}^{\sim}$ | S H''\`              |
| S $\dot{3}^{\sim}$ | S H'\'               |
| S $\sim'$          | S H'\'               |
| S A`               | S H'                 |
| S A'               | S H'                 |
| S A`               | S H'                 |
| S A`               | S H                  |
| S A'               | S I`                 |
| S A'\`             | S I'                 |
| S A'\`             | S I`                 |
| S A'\'             | S I`                 |
| S A'\'             | S I`                 |
| S A'               | S I'                 |
| S A'               | S I''\`              |
| S A'               | S I'\'               |
| S A'               | S I'                 |
| S A'\`             | S I'\`               |
| S A'\`             | S I'\'               |
| S A'\'             | S I'                 |
| S A'\'             | S I'                 |
| S A'               | S $\dot{0}$ `        |
| S A'               | S $\dot{0}$ '        |
| S A'               | S $\dot{0}$ '        |
| S A                | S $\dot{0}$ '\`      |
| S E`               | S $\dot{0}$ '\'      |
| S E'               | S $\dot{0}$ '        |
| S E'               | S $\dot{0}$ '\`      |
| S E'\`             | S $\dot{0}$ '\'      |
| S E'\'             | S P'                 |
| S E'               | S Y`                 |
| S E'\`             | S Y'                 |
| S E'\'             | S Y`                 |
| S H`               | S Y`                 |
| S H'               | S Y`                 |
| S H'               | S Y'                 |
| S H'\`             | S Y''\`              |
| S H'\`             | S Y'\'               |
| S H'\'             | S Y'                 |
| S H'\'             | S $\dot{\Omega}$ `   |
| S H'               | S $\dot{\Omega}$ '   |
| S H'               | S $\dot{\Omega}$ '   |
| S H'               | S $\dot{\Omega}$ '\` |



[illegible]

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|              |            |     |
|--------------|------------|-----|
| S            |            | T < |
| S            |            | S / |
| S            |            | T = |
| S            |            | S / |
| S            |            | T > |
| S            |            | S / |
| S            |            | T A |
| S            |            | S ` |
| S            |            | S ´ |
| S            |            | S ^ |
| S            |            | S ~ |
| S            |            | S - |
| S            |            | S ~ |
| S            |            | S ´ |
| S            |            | S " |
| S            |            | S ´ |
| S            |            | S ° |
| S            |            | S ˇ |
| S            |            | S " |
| S            |            | S ^ |
| S            |            | S . |
| S            |            | S . |
| contextname  | function   | S . |
| csletters    | data table | S . |
| data         | data table | T B |
| decomposed   | data table | S ´ |
| description  | function   | S . |
| descriptions | data table | S _ |
| detailltags  | data table | T C |
| directions   | table      | S ´ |
| emoji        | table      | S ^ |
| F compact    |            | S ´ |
| F known      |            | S ˇ |
| F resolve    |            | S , |
| emojized     | function   | T D |
| encodes      | data table | S ´ |
| entities     | data table | S ˇ |
| fallbacks    | data table | S . |
| filters      | data table | S , |
| fractions    | table      | S ^ |
| fromnumber   | function   | S _ |
| fschars      | data table | T E |
| fscodes      | data table | S ` |
| getrange     | function   | S ´ |
| graphemes    | table      | S ^ |

|       |       |
|-------|-------|
| S ~   | S ^   |
| S -   | S ,   |
| S ~   | S ,   |
| S ' . | S ~   |
| S "   | T J   |
| S ' , | S ^   |
| S v   | T K   |
| S "   | S ' . |
| S ^   | S v   |
| S ,   | S ,   |
| S ,   | S ,   |
| S ,   | S _   |
| S ^   | T L   |
| S "   | S ' . |
| T F   | S v   |
| S ' . | S ,   |
| T G   | S ,   |
| S ' . | S ^   |
| S ^   | S _   |
| S -   | T M   |
| S ~   | S ' . |
| S ' . | S ' . |
| S v   | S ,   |
| S ,   | T N   |
| T H   | S \   |
| S ^   | S ' . |
| S ' . | S ~   |
| S "   | S ' . |
| S v   | S v   |
| S ,   | S ,   |
| S ,   | S ,   |
| S _   | S ^   |
| T I   | S _   |
| S \   | T O   |
| S ' . | S \   |
| S ^   | S ' . |
| S "   | S ^   |
| S -   | S ~   |
| S ~   | S -   |
| S ' . | S ~   |
| S "   | S ' . |
| S ' , | S "   |
| S v   | S ' , |
| S "   | S "   |

|     |      |
|-----|------|
| S ^ | S "  |
| S " | S ^  |
| S ^ | S "  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| T P | S .. |
| S ^ | S    |
| S ^ | S ^  |
| T R | S .. |
| S ^ | T V  |
| S ^ | S "  |
| S ^ | S ^  |
| S " | T W  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| T S | S "  |
| S ^ | S ^  |
| S ^ | T X  |
| S ^ | S ^  |
| S ^ | S "  |
| S ^ | T Y  |
| S ^ | S ^  |
| S ^ | S ^  |
| T T | S ^  |
| S ^ | S "  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S "  |
| S ^ | S "  |
| S ^ | S ^  |
| S ^ | S ^  |
| T U | T Z  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | T a  |
| S ^ | S ^  |
| S ^ | S ^  |
| S ^ | S ^  |

|       |       |
|-------|-------|
| S ~   | S ,   |
| S -   | S ,   |
| S ~   | S ^   |
| S ' . | S ~   |
| S "   | T f   |
| S ' , | S ' . |
| S °   | T g   |
| S √   | S ' . |
| S "   | S ^   |
| S ^   | S -   |
| S ,   | S ~   |
| S °   | S ' . |
| S ,   | S √   |
| T b   | S ,   |
| S ' . | T h   |
| S ,   | S ^   |
| S _   | S ' . |
| T c   | S "   |
| S ' . | S √   |
| S ^   | S ,   |
| S ' . | S ,   |
| S √   | S ~   |
| S ,   | S _   |
| T d   | T i   |
| S ' . | S `   |
| S √   | S ' . |
| S ,   | S ^   |
| S ,   | S ~   |
| S ^   | S -   |
| S _   | S ~   |
| T e   | S "   |
| S `   | S ' , |
| S ' . | S √   |
| S ^   | S "   |
| S ~   | S ^   |
| S -   | S ,   |
| S ~   | S ,   |
| S ' . | S ~   |
| S "   | T j   |
| S ' , | S ^   |
| S √   | S √   |
| S "   | T k   |
| S ^   | S ' . |
| S ,   | S √   |

|     |      |
|-----|------|
| S . | T r  |
| S . | S ´  |
| S _ | S ´  |
| T l | S ˇ  |
| S ´ | S ¨  |
| S ˇ | S ^  |
| S . | S .  |
| S , | S ,  |
| S ^ | S _  |
| S _ | T s  |
| T m | S ´  |
| S ´ | S ^  |
| S ´ | S ´  |
| S . | S ˇ  |
| T n | S ,  |
| S ` | S ,  |
| S ´ | S ,  |
| S ¨ | T t  |
| S ´ | S ´  |
| S ˇ | S ¨  |
| S . | S ˇ  |
| S , | S .  |
| S ^ | S ,  |
| S _ | S ,  |
| T o | S ^  |
| S ` | S _  |
| S ´ | T u  |
| S ^ | S `  |
| S ¨ | S ´  |
| S ˇ | S ^  |
| S ´ | S ^  |
| S ¨ | S ˇ  |
| S ` | S -  |
| S ¨ | S ˇ  |
| S ˆ | S ¨  |
| S ¨ | S ˆ  |
| S ^ | S ¨  |
| S ´ | S ˇ  |
| S . | S ^  |
| S , | S ´  |
| T p | S .  |
| S ´ | S .. |
| S ´ | S ,  |

|     |     |
|-----|-----|
| S ^ | S ^ |
| S ~ | T Å |
| T v | S ´ |
| S ¨ | T Æ |
| S . | S ´ |
| T w | S ^ |
| S ` | T Ç |
| S ´ | S ´ |
| S ^ | T Ê |
| S ´ | S ` |
| S ¨ | S ´ |
| S ° | S ~ |
| S . | S ´ |
| T x | T Ĩ |
| S ´ | S ´ |
| S ¨ | T Ò |
| T y | S ` |
| S ` | S ´ |
| S ´ | S ~ |
| S ^ | S ´ |
| S ¨ | T Õ |
| S ^ | S ´ |
| S ¨ | S ^ |
| S ´ | S ¨ |
| S ¨ | T Ö |
| S ´ | S ^ |
| S ¨ | T Ø |
| S ´ | S ´ |
| S ° | T Ù |
| S . | S ` |
| T z | S ´ |
| S ´ | S ´ |
| S ^ | S ^ |
| S ´ | S ^ |
| S ˇ | S ^ |
| S . | S ˇ |
| S _ | T â |
| T ¨ | S ` |
| S ` | S ´ |
| S ´ | S ~ |
| S   | S ´ |
| T Å | T ä |
| S ` | S ^ |
| S ´ | T å |
| S ~ | S ´ |
| S ´ | T æ |
| T Ä | S ´ |

|                |                |
|----------------|----------------|
| S <sup>˘</sup> | T Ȯ            |
| T Ç            | S <sup>`</sup> |
| S <sup>˙</sup> | S <sup>˙</sup> |
| T Ê            | T Ȫ            |
| S <sup>`</sup> | S <sup>`</sup> |
| S <sup>˙</sup> | S <sup>˙</sup> |
| S <sup>ˆ</sup> | T Š            |
| S <sup>˚</sup> | S <sup>˙</sup> |
| T Ĭ            | T Ṧ           |
| S <sup>˙</sup> | S <sup>˙</sup> |
| T Ō            | T Š̈           |
| S <sup>`</sup> | S <sup>˙</sup> |
| S <sup>˙</sup> | T Š̌           |
| S <sup>ˆ</sup> | S <sup>˙</sup> |
| S <sup>˚</sup> | T Ū            |
| T Œ            | S <sup>˙</sup> |
| S <sup>˙</sup> | T Ū̇           |
| S <sup>ˆ</sup> | S <sup>˙</sup> |
| S <sup>ˆ</sup> | T Ṻ           |
| T Ȫ            | S <sup>ˆ</sup> |
| S <sup>ˆ</sup> | T Ū̌           |
| T Ø            | S <sup>ˆ</sup> |
| S <sup>˙</sup> | T ƒ            |
| T Ū            | S <sup>˙</sup> |
| S <sup>`</sup> | T Œ            |
| S <sup>˙</sup> | S <sup>`</sup> |
| S <sup>ˆ</sup> | S <sup>˙</sup> |
| S <sup>˙</sup> | S <sup>ˆ</sup> |
| T Ä            | S <sup>˚</sup> |
| S <sup>`</sup> | S <sup>˙</sup> |
| S <sup>˙</sup> | T σ            |
| S <sup>ˆ</sup> | S <sup>`</sup> |
| S <sup>˚</sup> | S <sup>˙</sup> |
| T Ǻ            | S <sup>ˆ</sup> |
| S <sup>`</sup> | S <sup>˚</sup> |
| S <sup>˙</sup> | S <sup>˙</sup> |
| S <sup>ˆ</sup> | S <sup>˙</sup> |
| S <sup>˚</sup> | T Ů            |
| T Ě            | S <sup>`</sup> |
| S <sup>`</sup> | S <sup>ˆ</sup> |
| S <sup>˙</sup> | S <sup>˚</sup> |
| T ě            | S <sup>˙</sup> |
| S <sup>`</sup> | T ư            |
| S <sup>˙</sup> | S <sup>`</sup> |

|     |     |
|-----|-----|
| S ´ | S   |
| S ~ | T I |
| S ´ | S ` |
| S . | S ´ |
| T 3 | S - |
| S ˇ | S ~ |
| T 0 | S " |
| S - | S ´ |
| T 0 | S ´ |
| S - | T 0 |
| T Å | S ` |
| S - | S ´ |
| T à | S ´ |
| S - | S ´ |
| T Ē | T P |
| S ~ | S ´ |
| T ħ | T Y |
| S ~ | S ` |
| T 0 | S ´ |
| S - | S - |
| T ó | S ~ |
| S - | S " |
| T 3 | S ´ |
| S ˇ | T 0 |
| T " | S ` |
| S ´ | S ´ |
| T A | S ´ |
| S ` | S ´ |
| S ´ | S   |
| S - | T á |
| S ~ | S   |
| S ´ | T ħ |
| S ´ | S   |
| S   | T α |
| T E | S ` |
| S ` | S ´ |
| S ´ | S - |
| S ´ | S ~ |
| S ´ | S ´ |
| T H | S ´ |
| S ` | S   |
| S ´ | S   |
| S ´ | T ε |
| S ´ | S ` |



|     |     |
|-----|-----|
| S ´ | S ` |
| S ´ | S ´ |
| S ´ | S   |
| T η | T ü |
| S ` | S ` |
| S ´ | S ´ |
| S ´ | S   |
| S ´ | T ů |
| S   | S   |
| S   | T Υ |
| T ι | S ´ |
| S ` | S " |
| S ´ | T I |
| S ¯ | S " |
| S ~ | T A |
| S " | S ~ |
| S ´ | S " |
| S ´ | T Γ |
| S   | S ´ |
| T o | T E |
| S ` | S ` |
| S ´ | S ~ |
| S ´ | S " |
| S ´ | T Ж |
| T ρ | S ~ |
| S ´ | S " |
| S ´ | T 3 |
| T υ | S " |
| S ` | T И |
| S ´ | S ` |
| S ¯ | S ¯ |
| S ~ | S ~ |
| S " | S " |
| S ´ | T K |
| S ´ | S ´ |
| S   | T 0 |
| T ω | S " |
| S ` | T Y |
| S ´ | S ¯ |
| S ´ | S ~ |
| S ´ | S " |
| S   | S " |
| S   | T 4 |
| T ï | S " |

|     |     |
|-----|-----|
| Т Ы | Т Ә |
| С " | С " |
| Т Ә | Т ә |
| С " | С " |
| Т а | Т Ө |
| С ~ | С " |
| С " | Т ө |
| Т Ғ | С " |
| С ´ | Т   |
| Т е | С   |
| С ` | С   |
| С ~ | С   |
| С " | Т   |
| Т Ж | С   |
| С ~ | С   |
| С " | Т   |
| Т Э | С   |
| С " | Т   |
| Т и | С   |
| С ` | Т   |
| С ~ | С   |
| С ~ | Т   |
| С " | С   |
| Т К | С   |
| С ´ | Т   |
| Т о | С   |
| С " | Т   |
| Т у | С   |
| С ~ | Т   |
| С ~ | С   |
| С " | С   |
| С " | Т   |
| Т Ч | С   |
| С " | Т   |
| Т Ы | С   |
| С " | С   |
| Т Ә | Т   |
| С " | С   |
| Т і | Т   |
| С " | С   |
| Т   | Т   |
| С " | С   |
| Т   | Т   |
| С " | С   |

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|     |     |
|-----|-----|
| T Ş | S   |
| S ` | T Å |
| T ş | S ` |
| S ` | S ´ |
| T Å | S   |
| S ^ | S   |
| S ~ | T Å |
| T ą | S   |
| S ^ | T Å |
| S ~ | S   |
| T Ē | T Å |
| S ^ | S   |
| T ę | T Å |
| S ^ | S   |
| T Ő | T Å |
| S ^ | S   |
| T օ | T Å |
| S ^ | S   |
| T á | T é |
| S ` | S ` |
| S ´ | S ´ |
| S   | T é |
| S   | S ` |
| T ă | S ´ |
| S ` | T Ě |
| S ´ | S ` |
| S   | S ´ |
| S   | T Ě |
| T ǎ | S ` |
| S   | S ´ |
| T ǎ | T ħ |
| S   | S ` |
| T ǎ | S ´ |
| S   | S   |
| T ǎ | S   |
| S   | T ħ |
| T ǎ | S ` |
| S   | S ´ |
| T ǎ | S   |
| S   | S   |
| T Å | T ħ |
| S ` | S   |
| S ´ | T ħ |
| S   | S   |

|      |     |
|------|-----|
| T ħ  | S ´ |
| S    | S   |
| T ħ  | T ó |
| S    | S ` |
| T ħ  | S ´ |
| S    | T ó |
| T ħ  | S ` |
| S    | S ´ |
| T H  | T 0 |
| S `  | S ` |
| S ´  | S ´ |
| S    | T 0 |
| S    | S ` |
| T H  | S ´ |
| S `  | T ù |
| S ´  | S ` |
| S    | S ´ |
| S    | S   |
| T ¨H | T ù |
| S    | S ` |
| T ¨H | S ´ |
| S    | S   |
| T ¨H | T Y |
| S    | S ` |
| T ¨H | S ´ |
| S    | S   |
| T ¨H | T ı |
| S    | S ` |
| T ¨H | S ´ |
| S    | S   |
| T i  | S   |
| S `  | T ı |
| S ´  | S ` |
| S    | S ´ |
| T i  | S   |
| S `  | S   |
| S ´  | T ı |
| S    | S   |
| T I  | T ı |
| S `  | S   |
| S ´  | T ı |
| S    | S   |
| T I  | T ı |
| S `  | S   |

|                    |                     |
|--------------------|---------------------|
| $T \tilde{\omega}$ | $S \prime$          |
| $S$                | $S$                 |
| $T \tilde{\omega}$ | $T \leftarrow$      |
| $S$                | $S /$               |
| $T \eta$           | $T \rightarrow$     |
| $S \backslash$     | $S /$               |
| $S \prime$         | $T \leftrightarrow$ |
| $S$                | $S /$               |
| $S$                | $T \approx$         |
| $T \eta$           | $S /$               |
| $S \backslash$     | $T \Rightarrow$     |
| $S \prime$         | $S /$               |
| $S$                | $T \leftrightarrow$ |
| $S$                | $S /$               |
| $T \eta$           | $T \exists$         |
| $S$                | $S /$               |
| $T \eta$           | $T \in$             |
| $S$                | $S /$               |
| $T \eta$           | $T \exists$         |
| $S$                | $S /$               |
| $T \eta$           | $T$                 |
| $S$                | $S /$               |
| $T \eta$           | $T$                 |
| $S$                | $S /$               |
| $T \eta$           | $T \sim$            |
| $S$                | $S /$               |
| $T \alpha$         | $T \approx$         |
| $S$                | $S /$               |
| $T \dot{\eta}$     | $T \equiv$          |
| $S$                | $S /$               |
| $T \dot{\omega}$   | $T \approx$         |
| $S$                | $S /$               |
| $T \tilde{\alpha}$ | $T \approx$         |
| $S$                | $S /$               |
| $T \prime$         | $T \equiv$          |
| $S \backslash$     | $S /$               |
| $S \prime$         | $T \leq$            |
| $S$                | $S /$               |
| $T \tilde{\eta}$   | $T \geq$            |
| $S$                | $S /$               |
| $T \tilde{\omega}$ | $T \leq$            |
| $S$                | $S /$               |
| $T \prime$         | $T \geq$            |
| $S \backslash$     | $S /$               |





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|                |            |           |          |
|----------------|------------|-----------|----------|
| T              |            | S ex      |          |
| S              |            | S gl      |          |
| S              |            | S h2      |          |
| S              |            | S h3      |          |
| S              |            | S hl      |          |
| S              |            | S hy      |          |
| T              |            | S id      |          |
| S              |            | S in      |          |
| T              |            | S is      |          |
| S              |            | S jl      |          |
| T              |            | S jt      |          |
| S              |            | S jv      |          |
| S              |            | S lf      |          |
| T              |            | S nl      |          |
| S              |            | S ns      |          |
| S              |            | S nu      |          |
| hangul         | data table | S op      |          |
| initialize     | function   | S po      |          |
| is_character   | data table | S pr      |          |
| is_command     | data table | S qu      |          |
| is_letter      | data table | S ri      |          |
| is_mark        | data table | S sa      |          |
| is_punctuation | data table | S sg      |          |
| is_spacing     | data table | S sp      |          |
| lcchars        | data table | S sy      |          |
| lccode         | function   | S wj      |          |
| lccodes        | data table | S xx      |          |
| lettered       | function   | S zw      |          |
| lhash          | data table | S zwj     |          |
| linebreaks     | table      | lower     | function |
| S ai           |            | math      | table    |
| S al           |            | mathpairs | table    |
| S b2           |            | T :       |          |
| S ba           |            | S =       |          |
| S bb           |            | T <       |          |
| S bk           |            | S =       |          |
| S cb           |            | T =       |          |
| S cj           |            | S :       |          |
| S cl           |            | T >       |          |
| S cm           |            | S =       |          |
| S cp           |            | T /       |          |
| S cr           |            | S <       |          |
| S eb           |            | S =       |          |
| S em           |            | S >       |          |

|     |                             |            |
|-----|-----------------------------|------------|
| S ↵ | S                           |            |
| S → | S                           |            |
| S ↔ | <b>mirrors</b>              | table      |
| S = | <b>otfscripts</b>           | data table |
| S ⇨ | <b>ranges</b>               | data table |
| S ⇩ | <b>registerentities</b>     | function   |
| S ∃ | <b>remap_hangul_syllabe</b> | function   |
| S ∈ | <b>setactivecatcodes</b>    | function   |
| S ∋ | <b>setlettercatcodes</b>    | function   |
| S   | <b>shape</b>                | function   |
| S   | <b>shaped</b>               | function   |
| S ~ | <b>shash</b>                | data table |
| S ≈ | <b>shchars</b>              | data table |
| S ≡ | <b>shcodes</b>              | data table |
| S ≐ | <b>showstring</b>           | function   |
| S × | <b>specialchars</b>         | data table |
| S ≡ | <b>specials</b>             | data table |
| S ≍ | <b>splits</b>               | table      |
| S ≎ | T char                      |            |
| S ≏ | T compat                    |            |
| S ≐ | <b>subscripts</b>           | table      |
| S ≑ | <b>superscripts</b>         | table      |
| S ≒ | <b>synonyms</b>             | data table |
| S < | <b>tex</b>                  | table      |
| S > | D accentmapping             |            |
| S ≪ | D commandmapping            |            |
| S ≫ | F defineaccents             |            |
| S ⊂ | F safechar                  |            |
| S ⊃ | F toutf                     |            |
| S ⊆ | F toutfpattern              |            |
| S ⊇ | <b>textclasses</b>          | table      |
| S ≡ | <b>tonumber</b>             | function   |
| S ≡ | <b>ucchars</b>              | data table |
| S ⊢ | <b>uccode</b>               | function   |
| S   | <b>uccodes</b>              | data table |
| S   | <b>uhash</b>                | data table |
| S   | <b>unicodechar</b>          | function   |
| S   | <b>upper</b>                | function   |
| S   |                             |            |

## chemistry (context)

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

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

## containers (context)

**cleannname** function  
**content** function  
**define** function  
**is\_usable** function

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

## converters (context)

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

|                |          |              |          |
|----------------|----------|--------------|----------|
| D data         |          | <b>word</b>  | function |
| F translate    |          | <b>words</b> | function |
| <b>weekday</b> | function | <b>year</b>  | function |

## coroutine (basic lua)

**create**    function  
**resume**   function  
**running** function

**status**   function  
**wrap**     function  
**yield**    function



# ctxrunner (context)

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

## debug (basic lua)

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

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

## dir (context)

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

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

## directives (context)

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

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

# document (context)

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

## environment (context)

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

## epdf (extra tex)

**Array** function  
**Attribute** function  
**AttributeOwner\_Type** function  
**Attribute\_Type** function  
**Dict** function  
**Object** function

**PDFRectangle** function  
**StructElement\_Type** function  
**open** overloaded function  
**openMemStream** function  
**type** function

# experiments (context)

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



# figures (context)

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

## file (basic lua)

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

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

## fio (extra lua)

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

# floats (context)

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

## font (basic tex)

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

# fonts (context)

## analyzers

table

T features

N blwf

N fin2

N fin3

N fina

N half

N init

N isol

N med2

N medi

N pref

N pstf

N rphf

D initializers

D methods

F setstate

T states

N blwf

N fin2

N fin3

N fina

N half

N init

N isol

N mark

N med2

N medi

N pref

N pstf

N rest

N rphf

B useunicodemarks

## checkers

table

F getmissing

F missing

F placeholder

## cid

table

F getmap

F loadfile

## collections

table

F checkenabled

F clonevector

F define

T definitions

F found

F prepare

F process

F registermain

F report

F reset

T vectors

## constructors

table

F addcharacters

F addcoreunicodes

F aftercopyingcharacters

F applymanipulators

F assignmathparameters

B autocleanup

F beforecopyingcharacters

D cache

B cacheintex

F calculatescale

F checkedfeatures

F checkedfilename

F cleanupable

F collectprocessors

F currentfonthasfeature

D designsizes

D dontembed

F enhanceparameters

T enhancers

T afm

F apply

F patch

T patches

F register

F report

F register

F report

T otf

F addfeature

|                    |   |
|--------------------|---|
| F apply            | T otf   |
| F enhance          | F addfeature  |
| F patch            | F basemodeinitializer                               |
| T patches          | D cache   |
| F register         | F collectlookups                                    |
| F report           | T coverup   |
| F register         | T actions   |
| F report           | F alternate   |
| T tfm              | F chainposition                                     |
| F apply            | F chainsubstitution                                 |
| F patch            | F kern  |
| T patches          | F ligature  |
| F register         | F multiple  |
| F report           | F pair  |
| F register         | F single  |
| F report           | F substitution                                      |
| N factor           | F register  |
| T features         | S stepkey   |
| D afm              | F dataset   |
| D otf              | F datasetpositionprocessor                          |
| D tfm              | S defaultbasealternate                              |
| F finalize         | S defaultnodealternate                              |
| F getfeatureaction | D features  |
| F getprivate       | F featuresinitializer                               |
| T handlers         | F featuresprocessor                                 |
| T afm              | F getactualtext                                     |
| B autoprefixed     | F getalternate                                      |
| D cache            | F getgsub   |
| D features         | F getkern   |
| F getkern          | F getmultiple                                       |
| T helpdata         | F getsubstitution                                   |
| D bothkerned       | T handlers  |
| D leftkerned       | F devanagari_remove_joiners                         |
| D ligatures        | F devanagari_reorder_matras                         |
| D rightkerned      | F devanagari_reorder_pre_base_reordering_consonants |
| D texligatures     | F devanagari_reorder_reph                           |
| F load             | F gpos_context                                      |
| T readers          | F gpos_contextchain                                 |
| F getinfo          | F gpos_cursive                                      |
| F loadfont         | F gpos_mark2base                                    |
| F loadshapes       | F gpos_mark2ligature                                |
| F setfeatures      | F gpos_mark2mark                                    |
| B syncspace        | F gpos_pair   |
| N version          | F gpos_single                                       |

|                            |                               |
|----------------------------|-------------------------------|
| F gsub_altername           | T gposhandlers                |
| F gsub_context             | F chainedcontext              |
| F gsub_contextchain        | F context                     |
| F gsub_ligature            | F cursive                     |
| F gsub_multiple            | F extension                   |
| F gsub_reversecontextchain | F marktobase                  |
| F gsub_single              | F marktoligature              |
| F trigger_space_kerns      | F marktomark                  |
| T helpers                  | F pair                        |
| F blockligatures           | F single                      |
| F pardirstate              | F gsub                        |
| F txtfirststate            | T gsubhandlers                |
| F load                     | F altername                   |
| F loadoutlinedata          | F chainedcontext              |
| F loadstreamdata           | F context                     |
| F modeinitializer          | F extension                   |
| D pdfcache                 | F ligature                    |
| F plugininitializer        | F multiple                    |
| F pluginprocessor          | F reversechainedcontextsingle |
| T plugins                  | F single                      |
| T readers                  | F gvar                        |
| F addunicodetable          | F head                        |
| F avar                     | T helpers                     |
| F cbdt                     | F axistofactors               |
| F cblc                     | F cleanname                   |
| F cff                      | F getaxisscale                |
| F cff2                     | F getfactors                  |
| F cffcheck                 | F getscales                   |
| F checkhash                | F gotodatatable               |
| F cmap                     | F normalizedaxis              |
| F colr                     | T normalizedaxishash          |
| F compact                  | F readvariationdata           |
| F cpal                     | F reportskippedtable          |
| F ebdt                     | F setvariabledata             |
| F eblc                     | F hhea                        |
| F ebsc                     | F hmtx                        |
| F expand                   | F hvar                        |
| F extend                   | F kern                        |
| F fvar                     | F loadfont                    |
| F gdef                     | F loadshapes                  |
| F getcomponents            | F loca                        |
| F getinfo                  | F math                        |
| F glyf                     | F maxp                        |
| F gpos                     | F mvar                        |



|                    |                     |
|--------------------|---------------------|
| F name             | F skiplong          |
| F os/2             | F skipposition      |
| F pack             | F skipshort         |
| F parsecharstrings | F writebyte         |
| F post             | F writecardinal2    |
| F registerextender | F writecardinal4    |
| F rehash           | F writestring       |
| F sbix             | F svg               |
| F stat             | N tableversion      |
| T streamreader     | F unifymissing      |
| F close            | F unpack            |
| F getposition      | F vhea              |
| F getsize          | F vmtx              |
| F look             | F vorg              |
| F open             | F vvar              |
| F read2dot14       | F woff2otf          |
| F readbyte         | F registerpalette   |
| F readbytes        | F registerplugin    |
| F readbytetable    | F reorderlookups    |
| F readcardinal     | T sbix              |
| F readcardinal1    | F topdf             |
| F readcardinal2    | D sbixcache         |
| F readcardinal2le  | B sbixenabled       |
| F readcardinal3    | F scriptandlanguage |
| F readcardinal3le  | F setdynamics       |
| F readcardinal4    | F setfeatures       |
| F readcardinal4le  | T statistics        |
| F readchar         | D usedfeatures      |
| F readfixed2       | F storepdfdata      |
| F readfixed4       | T svg               |
| F readinteger      | F filterglyph       |
| F readinteger1     | F topdf             |
| F readinteger2     | D svgcache          |
| F readinteger2le   | B svgenabled        |
| F readinteger3     | T tables            |
| F readinteger3le   | D baselines         |
| F readinteger4     | D features          |
| F readinteger4le   | D featuretypes      |
| F readsignedbyte   | D languages         |
| F readstring       | D scripts           |
| F readtag          | N version           |
| F setposition      | T pfb               |
| F size             | F loadvector        |
| F skip             | T tfm               |

|                      |                          |
|----------------------|--------------------------|
| F addtounicode       | S scriptscriptpercentage |
| D features           | S size                   |
| N maxnestingdepth    | S slantfactor            |
| N maxnestingsize     | S slantperpoint          |
| F reencode           | T spacing                |
| F setfeatures        | S extra                  |
| N version            | S shrink                 |
| T vf                 | S stretch                |
| T combinations       | S width                  |
| F combine            | S units                  |
| T combiner           | S vfactor                |
| D commands           | S xheight                |
| D helpers            | T properties             |
| D math               | S autoitalicamount       |
| D predefined         | S cidinfo                |
| N version            | S embedding              |
| D whatever           | S encodingbytes          |
| F hashfeatures       | S filename               |
| F hashinstance       | S finalized              |
| T hashmethods        | S fontname               |
| F normal             | S format                 |
| F virtual            | S fullname               |
| F initializefeatures | S hasitalics             |
| T keys               | S hasmath                |
| T characters         | S mathitalics            |
| T descriptions       | S mode                   |
| T parameters         | S name                   |
| S ascender           | S noglyphnames           |
| S descender          | S nostackmath            |
| S designsize         | S psname                 |
| T expansion          | S textitalics            |
| S auto               | S virtualized            |
| S shrink             | D loadedfonts            |
| S step               | S namemode               |
| S stretch            | N noffontsloaded         |
| S extendfactor       | N nofsharedfonts         |
| S factor             | N nofsharedhashes        |
| S hfactor            | N nofsharedvectors       |
| S mathsize           | N privateoffset          |
| T protrusion         | D privateslots           |
| S auto               | F readanddefine          |
| S quad               | F registerfeature        |
| S scaledpoints       | F resetfeature           |
| S scriptpercentage   | B resolvevirtualtoo      |

|                       |          |                     |
|-----------------------|----------|---------------------|
| F scale               |          | N Becyrillic        |
| F scaled              |          | N Cdot              |
| F setfactor           |          | N Checyrillic       |
| F setfeature          |          | N Decyrillic        |
| F setname             |          | N Djecyrillic       |
| B sharefonts          |          | N Dzecyrillic       |
| F trytosharefont      |          | N Dzhecyrillic      |
| N version             |          | N Ecyrillic         |
| <b>current</b>        | function | N Edot              |
| <b>currentid</b>      | function | N Efcyrillic        |
| <b>definers</b>       | table    | N Elcyrillic        |
| F addlookup           |          | N Emcyrillic        |
| F analyze             |          | N Encyrillic        |
| F applypostprocessors |          | N Ercyrillic        |
| F checkedmode         |          | 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 |
| F loadfont            |          | 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       |
| <b>definetypeface</b> | function | N Kjecyrillic       |
| <b>encodings</b>      | table    | N Lcedilla          |
| T agl                 |          | N Ljecyrillic       |
| D ctxcodes            |          | N Ncedilla          |
| D extras              |          | N Njecyrillic       |
| D names               |          | N Ocyrillic         |
| T synonyms            |          | N Oddblacute        |
| N Acyrillic           |          | N Ohm               |

|                             |                          |
|-----------------------------|--------------------------|
| N Pecyrillic                | N cdot                   |
| N Rcedilla                  | N compass                |
| N Shacyrillic               | N dagesh                 |
| N Shchacyrillic             | N dalet                  |
| N Softsigncyrillic          | N daletdagesh            |
| N Tcedilla                  | N daletkatafatah         |
| N Tencyrillic               | N daletkatafatahhebrew   |
| N Tsecyrillic               | N daletkatafsegol        |
| N Tshencyrillic             | N daletkatafsegolhebrew  |
| N Ucyrillic                 | N dalethebrew            |
| N Udblacute                 | N daletthiriq            |
| N Ushortcyrillic            | N daletthiriqhebrew      |
| N Vecyrillic                | N dalettholam            |
| N Yatcyrillic               | N dalettholamhebrew      |
| 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 eighthnotebeamed       |
| N blackleftpointingpointer  | N etnahtafoukhhebrew     |
| N blackrectangle            | N etnahtafoukhlefthebrew |
| N blackrightpointingpointer | N etnahtahebrew          |
| N blacksmilingface          | N fathaarabic            |
| N blacksquare               | N finalkaf               |
| N blackuppointingtriangle   | N finalkafdagesh         |
| N bulletinverse             | N finalkafhebrew         |

|                            |                                  |
|----------------------------|----------------------------------|
| N finalkafqamats           | N hatafsegolquarterhebrew        |
| N finalkafqamatshebrew     | N he                             |
| N finalkafsheva            | N hedagesh                       |
| N finalmem                 | N hehfinalalttwoarabic           |
| N finalnun                 | N het                            |
| N finalpe                  | N hiriq                          |
| N finaltsadi               | N hiriq14                        |
| N fivearabic               | N hiriq21                        |
| N forall                   | N hiriq2d                        |
| N fourarabic               | N hiriqhebrew                    |
| N gcedilla                 | N hiriqnarrowhebrew              |
| N gdot                     | N hiriqqarterhebrew              |
| N gimel                    | N holam                          |
| N gimeldagesh              | N holam19                        |
| 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 hamzafathatanarabic      | N integralbottom                 |
| N hamzallowarabic          | N integraltop                    |
| N hamzallowkasraarabic     | N kaf                            |
| N hamzallowkasratanarabic  | 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 hatafqamats              | N lamedholamdagesh               |
| N hatafqamats1b            | N lamedholamdageshhebrew         |
| N hatafqamats28            | N laminitialarabic               |
| N hatafqamats34            | N lammeemjeeminitialarabic       |
| N hatafqamatshebrew        | 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 nbspace                   | N qofholamhebrew       |
| N ncedilla                  | N qofpatah             |
| N newsheqelsign             | N qofpatahhebrew       |
| N ninearabic                | N qofqamats            |
| N noonhehinitialarabic      | N qofqamatshebrew      |
| N nun                       | N qofqubuts            |
| N nundagesh                 | N qofqubutshebrew      |
| N odblacute                 | N qofsegol             |
| N onearabic                 | N qofsegolhebrew       |
| N overscore                 | N qofsheva             |
| N patah                     | N qofshevahebrew       |
| N patah11                   | N qoftsere             |
| N patah1d                   | N qubuts               |
| N patah2a                   | N qubuts18             |
| N patahhebrew               | N qubuts25             |
| N patahnarrowhebrew         | N qubuts31             |
| N patahquarterhebrew        | N qubutshebrew         |
| N pe                        | N qubutsnarrowhebrew   |
| N pedagesh                  | N qubutsquarterhebrew  |
| N qamats                    | N quoteleftreversed    |
| N qamats10                  | N rafe                 |
| N qamats1a                  | N rcedilla             |
| N qamats1c                  | N reharabic            |
| N qamats27                  | N resh                 |
| N qamats29                  | N reshhatafpatah       |
| N qamats33                  | N reshhatafpatahhebrew |
| N qamatsde                  | N reshhatafsegol       |
| N qamatshebrew              | N reshhatafsegolhebrew |
| N qamatsnarrowhebrew        | N reshhebrew           |
| N qamatsqatanhebrew         | N reshhiriq            |
| N qamatsqatanannarrowhebrew | N reshhiriqhebrew      |
| N qamatsqatanquarterhebrew  | N ressholam            |
| N qamatsqatanwidehebrew     | N ressholamhebrew      |
| N qamatsquarterhebrew       | N reshpatah            |
| N qof                       | N reshpatahhebrew      |
| N qofdagesh                 | N reshqamats           |
| N qofhatafpatah             | N reshqamatshebrew     |
| N qofhatafpatahhebrew       | N reshqubuts           |
| N qofhatafsegol             | N reshqubutshebrew     |
| N qofhatafsegolhebrew       | N reshsegol            |
| N qofhebrew                 | N reshsegolhebrew      |
| N qofhiriq                  | N reshsheva            |
| N qofhiriqhebrew            | N reshshevahebrew      |
| N qofholam                  | N reshtsere            |

|                            |                       |
|----------------------------|-----------------------|
| N reviahebrew              | N tsere               |
| N samekh                   | N tsere12             |
| N samekhdagesh             | N tsere1e             |
| N segol                    | N tsere2b             |
| N segol13                  | N tserehebrew         |
| N segol1f                  | N tserenarrowhebrew   |
| N segol2c                  | N tserequarterhebrew  |
| N segolhebrew              | N twoarabic           |
| N segolnarrowhebrew        | N udblacute           |
| N segolquarterhebrew       | N vav                 |
| N sevenarabic              | N vavdagesh           |
| N sfthyphen                | N vavdagesh65         |
| N shaddaarabic             | N vavholam            |
| N sheqel                   | N yerahbenyomohebrew  |
| N sheva                    | N yod                 |
| N sheva115                 | N yoddagesh           |
| N sheva15                  | N zayin               |
| N sheva22                  | N zayindagesh         |
| N sheva2e                  | N zdot                |
| N shevahebrew              | N zeroarabic          |
| N shevanarrowhebrew        | D unicodes            |
| N shevaquarterhebrew       | D cache               |
| N shin                     | T ctxcodes            |
| N shindagesh               | N AEacute             |
| N shindageshshindot        | N AEligature          |
| N shindageshsindot         | N AEmacron            |
| N shinshindot              | N Aacute              |
| N shinsindot               | N Abreve              |
| N siluqhebrew              | N Abreveacute         |
| N sixarabic                | N Abrevedotbelow      |
| N tav                      | N Abrevegrave         |
| N tavdages                 | N Abrevehook          |
| N tavdagesh                | N Abrevetilde         |
| N tcedilla                 | N Acaron              |
| N tchehinitialarabic       | N Acircumflex         |
| N tet                      | N Acircumflexacute    |
| N tetdagesh                | N Acircumflexdotbelow |
| N tevirhebrew              | N Acircumflexgrave    |
| N thousandsseparatorarabic | N Acircumflexhook     |
| N threearabic              | N Acircumflextilde    |
| N tildecmb                 | N Adiaeresis          |
| N tipehahebrew             | N Adiaeresismacron    |
| N tsadi                    | N Adotaccent          |
| N tsadidagesh              | N Adotaccentmacron    |

N Adotbelow  
N Adoublegrave  
N Agrave  
N Ahook  
N Ainvertedbreve  
N Amacron  
N Aogonek  
N Aring  
N Aringacute  
N Astroke  
N Atilde  
N Bhook  
N Cacute  
N Ccaron  
N Ccedilla  
N Ccircumflex  
N Cdotaccent  
N Chook  
N Cstroke  
N DZcaronligature  
N DZligature  
N Dafrican  
N Dcaron  
N Dhook  
N Dstroke  
N Dzcaronligature  
N Dzligature  
N Eacute  
N Ebreve  
N Ecaron  
N Ecedilla  
N Ecircumflex  
N Ecircumflexacute  
N Ecircumflexdotbelow  
N Ecircumflexgrave  
N Ecircumflexhook  
N Ecircumflextilde  
N Ediaeresis  
N Edotaccent  
N Edotbelow  
N Edoublegrave  
N Egrave  
N Ehook  
N Einvertedbreve

N Emacron  
N Eogonek  
N Eth  
N Etilde  
N Fhook  
N Gacute  
N Gbreve  
N Gcaron  
N Gcircumflex  
N Gcommaaccent  
N Gdotaccent  
N Ghook  
N Gstroke  
N Hcaron  
N Hcircumflex  
N Hstroke  
N IJligature  
N Iacute  
N Ibreve  
N Icaron  
N Icircumflex  
N Idiaeresis  
N Idotaccent  
N Idotbelow  
N Idoublegrave  
N Igrave  
N Ihook  
N Iinvertedbreve  
N Imacron  
N Iogonek  
N Istroke  
N Itilde  
N Jcircumflex  
N Kcaron  
N Kcommaaccent  
N Khook  
N LJligature  
N Lacute  
N Lbar  
N Lcaron  
N Lcommaaccent  
N Ldotmiddle  
N Ljligature  
N Lstroke



|                       |                    |
|-----------------------|--------------------|
| N Nligature           | N Rcommaaccent     |
| N Nacute              | N Rdoublegrave     |
| N Ncaron              | N Rinvertedbreve   |
| N Ncommaaccent        | N Sacute           |
| N Neng                | N Scaron           |
| N Ngrave              | N Scedilla         |
| N Nligature           | N Schwa            |
| N Ntilde              | N Scircumflex      |
| N OEligature          | N Scommaaccent     |
| N Oacute              | N Tcaron           |
| N Obreve              | N Tcedilla         |
| N Ocaron              | N Tcommaaccent     |
| N Ocircumflex         | N Thook            |
| N Ocircumflexacute    | N Thorn            |
| N Ocircumflexdotbelow | N Tstroke          |
| N Ocircumflexgrave    | N Uacute           |
| N Ocircumflexhook     | N Ubreve           |
| N Ocircumflextilde    | N Ucaron           |
| N Odiaeresis          | N Ucircumflex      |
| N Odiaeresismacron    | N Udiaeresis       |
| N Odotaccent          | N Udiaeresisacute  |
| N Odotaccentmacron    | N Udiaeresiscaron  |
| N Odotbelow           | N Udiaeresisgrave  |
| N Odoublegrave        | N Udiaeresismacron |
| N Ograve              | N Udotbelow        |
| N Ohook               | N Udoublegrave     |
| N Ohorn               | N Ugrave           |
| N Ohornacute          | N Uhook            |
| N Ohorndotbelow       | N Uhorn            |
| N Ohorngrave          | N Uhornacute       |
| N Ohornhook           | N Uhorndotbelow    |
| N Ohorntilde          | N Uhorngrave       |
| N Ohungarumlaut       | N Uhornhook        |
| N Oinvertedbreve      | N Uhorntilde       |
| N Omacron             | N Uhungarumlaut    |
| N Oogonek             | N Uinvertedbreve   |
| N Oogonekmacron       | N Umacron          |
| N Ostroke             | N Uogonek          |
| N Ostrokeacute        | N Uring            |
| N Otilde              | N Utilde           |
| N Otildemacron        | N Wcircumflex      |
| N Phook               | N Yacute           |
| N Racute              | N Ycircumflex      |
| N Rcaron              | N Ydiaeresis       |

|                       |                          |
|-----------------------|--------------------------|
| N Ydotbelow           | N cacute                 |
| N Ygrave              | N carriagereturn         |
| N Yhook               | N ccaron                 |
| N Ymacron             | N ccedilla               |
| N Ytilde              | N ccircumflex            |
| N Zacute              | N ccurl                  |
| N Zcaron              | N cdotaccent             |
| N Zdotaccent          | N chook                  |
| N Zhook               | N copyright              |
| N Zstroke             | N cstroke                |
| N aacute              | N cyrillicA              |
| N abreve              | N cyrillicAE             |
| N abreveacute         | N cyrillicAbreve         |
| N abovedotbelow       | N cyrillicAdiaeresis     |
| N abrevegrave         | N cyrillicB              |
| N abrevehook          | N cyrillicBIGYUS         |
| N abrevetilde         | N cyrillicBIGYUSiotified |
| N acaron              | N cyrillicC              |
| N acircumflex         | N cyrillicCH             |
| N acircumflexacute    | N cyrillicCHEDC          |
| N acircumflexdotbelow | N cyrillicCHEDCabkhasian |
| N acircumflexgrave    | N cyrillicCHEabkhasian   |
| N acircumflexhook     | N cyrillicCHEdiaeresis   |
| N acircumflextilde    | N cyrillicCHEkhakassian  |
| N adiaeresis          | N cyrillicCHEvertstroke  |
| N adiaeresismacron    | N cyrillicD              |
| N adotaccent          | N cyrillicDASIAPNEUMATA  |
| N adotaccentmacron    | N cyrillicDJE            |
| N adotbelow           | N cyrillicDZE            |
| N adoublegrave        | N cyrillicDZEabkhasian   |
| N aacute              | N cyrillicDZHE           |
| N aeligature          | N cyrillicE              |
| N aemacron            | N cyrillicELtail         |
| N agrave              | N cyrillicEMtail         |
| N ahook               | N cyrillicENDC           |
| N ainvertedbreve      | N cyrillicENGHE          |
| N amacron             | N cyrillicENhook         |
| N aogonek             | N cyrillicENTail         |
| N aring               | N cyrillicEREV           |
| N aringacute          | N cyrillicERY            |
| N atilde              | N cyrillicERTick         |
| N bhook               | N cyrillicEbreve         |
| N breakablethinspace  | N cyrillicEdiaeresis     |
| N bstroke             | N cyrillicEgrave         |

|                              |                            |
|------------------------------|----------------------------|
| N cyrillicEiotified          | N cyrillic0barred          |
| N cyrillicF                  | N cyrillic0barreddiaeresis |
| N cyrillicFITA               | N cyrillic0diaeresis       |
| N cyrillicG                  | N cyrillicP                |
| N cyrillicGHEmidhook         | N cyrillicPALATALIZATION   |
| N cyrillicGHEstroke          | N cyrillicPALOCHKA         |
| N cyrillicGHEupturn          | N cyrillicPEmidhook        |
| N cyrillicGJE                | N cyrillicPSI              |
| N cyrillicH                  | N cyrillicPSILIPNEUMATA    |
| N cyrillicHA                 | N cyrillicR                |
| N cyrillicHADC               | N cyrillicS                |
| N cyrillicHRDSN              | N cyrillicSCHWA            |
| N cyrillicI                  | N cyrillicSCHWAdiaeresis   |
| N cyrillicIE                 | N cyrillicSDSC             |
| N cyrillicII                 | N cyrillicSEMISOFT         |
| N cyrillicISHRT              | N cyrillicSFTSN            |
| N cyrillicISHRTtail          | N cyrillicSH               |
| N cyrillicIZHITSA            | N cyrillicSHCH             |
| N cyrillicIZHITSAdoublegrave | N cyrillicSHHA             |
| N cyrillicIdiaeresis         | N cyrillicT                |
| N cyrillicIgrave             | N cyrillicTEDC             |
| N cyrillicImacron            | N cyrillicTETSE            |
| N cyrillicJE                 | N cyrillicTITLO            |
| N cyrillicK                  | N cyrillicTSHE             |
| N cyrillicKADC               | N cyrillicU                |
| N cyrillicKAbashkir          | N cyrillicUK               |
| N cyrillicKAhook             | N cyrillicUSHRT            |
| N cyrillicKAstroke           | N cyrillicUdiaeresis       |
| N cyrillicKAvertstroke       | N cyrillicUdoubleacute     |
| N cyrillicKJE                | N cyrillicUmacron          |
| N cyrillicKOPPA              | N cyrillicV                |
| N cyrillicKSI                | N cyrillicYA               |
| N cyrillicL                  | N cyrillicYAT              |
| N cyrillicLITTLEYUS          | N cyrillicYERUdiaeresis    |
| N cyrillicLITTLEYUSiotified  | N cyrillicYI               |
| N cyrillicLJE                | N cyrillicY0               |
| N cyrillicM                  | N cyrillicYU               |
| N cyrillicN                  | N cyrillicYstr             |
| N cyrillicNJE                | N cyrillicYstrstroke       |
| N cyrillicO                  | N cyrillicZ                |
| N cyrillicOMEGA              | N cyrillicZDSC             |
| N cyrillicOMEGAround         | N cyrillicZEdiaeresis      |
| N cyrillicOMEGAtitlo         | N cyrillicZH               |
| N cyrillicOT                 | N cyrillicZHEbreve         |

N cyrillicZHEdescender  
N cyrillicZHEdiaeresis  
N cyrillica  
N cyrillicabreve  
N cyrillicadiaeresis  
N cyrillicae  
N cyrillicb  
N cyrillicbigyus  
N cyrillicbigyusiotified  
N cyrillicc  
N cyrillicch  
N cyrilliccheabkhasian  
N cyrillicchedc  
N cyrillicchedcabkhasian  
N cyrillicchediaeresis  
N cyrillicchekhakassian  
N cyrillicchevertstroke  
N cyrillicd  
N cyrillicdje  
N cyrillicdze  
N cyrillicdzeabkhasian  
N cyrillicdzhe  
N cyrillice  
N cyrillicebreve  
N cyrillicediaeresis  
N cyrillicegrave  
N cyrilliceiotified  
N cyrilliceltail  
N cyrillicemtail  
N cyrillicencd  
N cyrillicenghe  
N cyrillicenhook  
N cyrillicentail  
N cyrillicerev  
N cyrillicertick  
N cyrillicery  
N cyrillicf  
N cyrillicfita  
N cyrillicg  
N cyrillicghemidhook  
N cyrillicghestroke  
N cyrillicgheupturn  
N cyrillicgje  
N cyrillich

N cyrillicha  
N cyrillichadc  
N cyrillichrdsn  
N cyrillicici  
N cyrillicidiaeresis  
N cyrillicie  
N cyrillicigrave  
N cyrillicii  
N cyrillicimacron  
N cyrillicishrt  
N cyrillicishrttail  
N cyrillicizhitsa  
N cyrillicizhitsadoublegrave  
N cyrillicje  
N cyrillick  
N cyrillickabashkir  
N cyrillickadc  
N cyrillickahook  
N cyrillickastroke  
N cyrillickavertstroke  
N cyrillickje  
N cyrillickoppa  
N cyrillicksi  
N cyrillicl  
N cyrilliclittleyus  
N cyrilliclittleyusiotified  
N cyrilliclje  
N cyrillicm  
N cyrillicn  
N cyrillicnje  
N cyrillico  
N cyrillicobarred  
N cyrillicobarreddiaeresis  
N cyrillicodiaeresis  
N cyrillicomega  
N cyrillicomegaround  
N cyrillicomegatitlo  
N cyrillicot  
N cyrillicp  
N cyrillicpemidhook  
N cyrillicpsi  
N cyrillicr  
N cyrillics  
N cyrillicschwa

N cyrillicschwadiaeresis  
N cyrillicsdsc  
N cyrillicsemisoft  
N cyrillicsftsn  
N cyrillicsh  
N cyrillicshch  
N cyrillicshha  
N cyrillict  
N cyrillictedc  
N cyrillictetse  
N cyrillictshe  
N cyrillicu  
N cyrillicudiaeresis  
N cyrillicudoubleacute  
N cyrillicuk  
N cyrillicumacron  
N cyrillicushrt  
N cyrillicv  
N cyrillicya  
N cyrillicyat  
N cyrillicyerudiaeresis  
N cyrillicyi  
N cyrillicyo  
N cyrillicystr  
N cyrillicystrstroke  
N cyrillicyu  
N cyrillicz  
N cyrilliczdsc  
N cyrilliczediaeresis  
N cyrilliczh  
N cyrilliczhebreve  
N cyrilliczhedescender  
N cyrilliczhediaeresis  
N dcaron  
N dcurl  
N dhook  
N dotlessI  
N dotlessJ  
N dotlessi  
N dotlessj  
N dotlessjstroke  
N dstroke  
N dtail  
N dzcaronligature

N dzligature  
N eacute  
N ebreve  
N ecaron  
N ecedilla  
N ecircumflex  
N ecircumflexacute  
N ecircumflexdotbelow  
N ecircumflexgrave  
N ecircumflexhook  
N ecircumflextilde  
N ediaeresis  
N edotaccent  
N edotbelow  
N edoublegrave  
N egrave  
N ehook  
N einvertedbreve  
N emacron  
N emdash  
N emspace  
N endash  
N enspace  
N eogonek  
N etilde  
N exclamdown  
N ffligature  
N ffligature  
N ffligature  
N fhook  
N figurespace  
N filigature  
N fiveeighths  
N fivesixths  
N flligature  
N fourfifths  
N fourperemspace  
N gacute  
N gbreve  
N gcaron  
N gcircumflex  
N gcommaaccent  
N gdotaccent  
N greekAlpha

N greekAlphadasia  
N greekAlphadasiaaperispomeni  
N greekAlphadasiatonos  
N greekAlphadasiavaria  
N greekAlphaiotasub  
N greekAlphaiotasubdasia  
N greekAlphaiotasubdasiaperispomeni  
N greekAlphaiotasubdasiatonos  
N greekAlphaiotasubdasiavaria  
N greekAlphaiotasubpsili  
N greekAlphaiotasubpsiliperispomeni  
N greekAlphaiotasubpsilitonos  
N greekAlphaiotasubpsilivaria  
N greekAlphamacron  
N greekAlphapsili  
N greekAlphapsiliperispomeni  
N greekAlphapsilitonos  
N greekAlphapsilivaria  
N greekAlphatonos  
N greekAlphavaria  
N greekAlphavrachy  
N greekBeta  
N greekChi  
N greekCoronis  
N greekDelta  
N greekEpsilon  
N greekEpsilondasia  
N greekEpsilondasiatonos  
N greekEpsilondasiavaria  
N greekEpsilonpsili  
N greekEpsilonpsilitonos  
N greekEpsilonpsilivaria  
N greekEpsilontonos  
N greekEpsilonvaria  
N greekEta  
N greekEtadasia  
N greekEtadasiaaperispomeni  
N greekEtadasiatonos  
N greekEtadasiavaria  
N greekEtaiotasub  
N greekEtaiotasubdasia  
N greekEtaiotasubdasiaperispomeni  
N greekEtaiotasubdasiatonos  
N greekEtaiotasubdasiavaria

N greekEtaiotasubpsili  
N greekEtaiotasubpsiliperispomeni  
N greekEtaiotasubpsilitonos  
N greekEtaiotasubpsilivaria  
N greekEtapsili  
N greekEtapsiliperispomeni  
N greekEtapsilitonos  
N greekEtapsilivaria  
N greekEtatonos  
N greekEtavaria  
N greekGamma  
N greekIota  
N greekIotadasia  
N greekIotadasiaaperispomeni  
N greekIotadasiatonos  
N greekIotadasiavaria  
N greekIotadialytika  
N greekIotamacron  
N greekIotapsili  
N greekIotapsiliperispomeni  
N greekIotapsilitonos  
N greekIotapsilivaria  
N greekIotatonos  
N greekIotavaria  
N greekIotavrachy  
N greekKappa  
N greekLambda  
N greekMu  
N greekNu  
N greekOmega  
N greekOmegadasia  
N greekOmegadasiaaperispomeni  
N greekOmegadasiatonos  
N greekOmegadasiavaria  
N greekOmegaiotasub  
N greekOmegaiotasubdasia  
N greekOmegaiotasubdasiaperispomeni  
N greekOmegaiotasubdasiatonos  
N greekOmegaiotasubdasiavaria  
N greekOmegaiotasubpsili  
N greekOmegaiotasubpsiliperispomeni  
N greekOmegaiotasubpsilitonos  
N greekOmegaiotasubpsilivaria  
N greekOmegapsili

|                                     |                                    |
|-------------------------------------|------------------------------------|
| N greekOmegapsiliperispomeni        | N greekalphiotasubdasiavaria       |
| N greekOmegapsilitonos              | N greekalphiotasubperispomeni      |
| N greekOmegapsilivaria              | N greekalphiotasubpsili            |
| N greekOmegatonos                   | N greekalphiotasubpsiliperispomeni |
| N greekOmegavaria                   | N greekalphiotasubpsilitonos       |
| N greekOmicron                      | N greekalphiotasubpsilivaria       |
| N greekOmicrondasia                 | N greekalphiotasubtonos            |
| N greekOmicrondasiatonos            | N greekalphiotasubvaria            |
| N greekOmicrondasiavaria            | N greekalphamacron                 |
| N greekOmicronpsili                 | N greekalphaoxia                   |
| N greekOmicronpsilitonos            | N greekalphaperispomeni            |
| N greekOmicronpsilivaria            | N greekalphapsili                  |
| N greekOmicrontonos                 | N greekalphapsiliperispomeni       |
| N greekOmicronvaria                 | N greekalphapsilitonos             |
| N greekPhi                          | N greekalphapsilivaria             |
| N greekPi                           | N greekalphatonos                  |
| N greekPsi                          | N greekalphavaria                  |
| N greekRho                          | N greekalphavrachy                 |
| N greekRhodasia                     | N greekbeta                        |
| N greekSigma                        | N greekchi                         |
| N greekSigmaunate                   | N greekdasia                       |
| N greekTau                          | N greekdasiaperispomeni            |
| N greekTheta                        | N greekdasiatonos                  |
| N greekUpsilon                      | N greekdasiavaria                  |
| N greekUpsilondasia                 | N greekdelta                       |
| N greekUpsilondasiaperispomeni      | N greekdialytikaperispomeni        |
| N greekUpsilondasiatonos            | N greekdialytikatonos              |
| N greekUpsilondasiavaria            | N greekdialytikavaria              |
| N greekUpsilondialytika             | N greekdigamma                     |
| N greekUpsilonmacron                | N greekepsilon                     |
| N greekUpsilontonos                 | N greekepsilonalt                  |
| N greekUpsilonvaria                 | N greekepsilondasia                |
| N greekUpsilonvrachy                | N greekepsilondasiatonos           |
| N greekXi                           | N greekepsilondasiavaria           |
| N greekZeta                         | N greekepsilonoxia                 |
| N greekalpha                        | N greekepsilonpsili                |
| N greekalphadasia                   | N greekepsilonpsilitonos           |
| N greekalphadasiaperispomeni        | N greekepsilonpsilivaria           |
| N greekalphadasiatonos              | N greekepsilontonos                |
| N greekalphadasiavaria              | N greekepsilonvaria                |
| N greekalphaiotasub                 | N greeketa                         |
| N greekalphaiotasubdasia            | N greeketadasia                    |
| N greekalphaiotasubdasiaperispomeni | N greeketadasiaaperispomeni        |
| N greekalphaiotasubdasiatonos       | N greeketadasiatonos               |

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| N greeketadasiavaria              | N greeklambda                       |
| N greeketaiotasub                 | N greekmu                           |
| N greeketaiotasubdasia            | N greeknu                           |
| N greeketaiotasubdasiaperispomeni | N greeknumkoppa                     |
| N greeketaiotasubdasiatonos       | N greekomega                        |
| N greeketaiotasubdasiavaria       | N greekomegadasia                   |
| N greeketaiotasubperispomeni      | N greekomegadasiaperispomeni        |
| N greeketaiotasubpsili            | N greekomegadasiatonos              |
| N greeketaiotasubpsiliperispomeni | N greekomegadasiavaria              |
| N greeketaiotasubpsilitonos       | N greekomegaiotasub                 |
| N greeketaiotasubpsilivaria       | N greekomegaiotasubdasia            |
| N greeketaiotasubtonos            | N greekomegaiotasubdasiaperispomeni |
| N greeketaiotasubvaria            | N greekomegaiotasubdasiatonos       |
| N greeketaoxia                    | N greekomegaiotasubdasiavaria       |
| N greeketaperispomeni             | N greekomegaiotasubperispomeni      |
| N greeketapsili                   | N greekomegaiotasubpsili            |
| N greeketapsiliperispomeni        | N greekomegaiotasubpsiliperispomeni |
| N greeketapsilitonos              | N greekomegaiotasubpsilitonos       |
| N greeketapsilivaria              | N greekomegaiotasubpsilivaria       |
| N greeketatonos                   | N greekomegaiotasubtonos            |
| N greeketavaria                   | N greekomegaiotasubvaria            |
| N greekfinaisigma                 | N greekomegaoxia                    |
| N greekgamma                      | N greekomegaperispomeni             |
| N greekiota                       | N greekomegapsili                   |
| N greekiotadasia                  | N greekomegapsiliperispomeni        |
| N greekiotadasiaaperispomeni      | N greekomegapsilitonos              |
| N greekiotadasiatonos             | N greekomegapsilivaria              |
| N greekiotadasiaavaria            | N greekomegatonos                   |
| N greekiotadialytika              | N greekomegavaria                   |
| N greekiotadialytikaperispomeni   | N greekomicron                      |
| N greekiotadialytikatonos         | N greekomicrondasia                 |
| N greekiotadialytikavaria         | N greekomicrondasiatonos            |
| N greekiotamacron                 | N greekomicrondasiavaria            |
| N greekiotaomia                   | N greekomicronoxia                  |
| N greekiotaperispomeni            | N greekomicronpsili                 |
| N greekiotapsili                  | N greekomicronpsilitonos            |
| N greekiotapsiliperispomeni       | N greekomicronpsilivaria            |
| N greekiotapsilitonos             | N greekomicrontonos                 |
| N greekiotapsilivaria             | N greekomicronvaria                 |
| N greekiotatonos                  | N greekomia                         |
| N greekiotavaria                  | N greekperispomeni                  |
| N greekiotavrachy                 | N greekphi                          |
| N greekkappa                      | N greekphialt                       |
| N greekkoppa                      | N greekpi                           |



|                                    |                            |
|------------------------------------|----------------------------|
| N greekpialt                       | N hairspace                |
| N greekprosgegrammeni              | N hcaron                   |
| N greekpsi                         | N hcircumflex              |
| N greekpsili                       | N hebrewAlef               |
| N greekpsiliperispomeni            | N hebrewAyin               |
| N greekpsilitonos                  | N hebrewBet                |
| N greekpsilivaria                  | N hebrewDalet              |
| N greekrho                         | N hebrewGimel              |
| N greekrhoalt                      | N hebrewHe                 |
| N greekrhodasia                    | N hebrewHet                |
| N greekrhopsili                    | N hebrewKaf                |
| N greeksampi                       | N hebrewKaffinal           |
| N greeksigma                       | N hebrewLamed              |
| N greeksigmalunate                 | N hebrewMem                |
| N greekstigma                      | N hebrewMemfinal           |
| N greektau                         | N hebrewNun                |
| N greektheta                       | N hebrewNunfinal           |
| N greekthetaalt                    | N hebrewPe                 |
| N greektonos                       | N hebrewPefinal            |
| N greekupsilon                     | N hebrewQof                |
| N greekupsilondasia                | N hebrewResh               |
| N greekupsilondasiaperispomeni     | N hebrewSamekh             |
| N greekupsilondasiatonos           | N hebrewShin               |
| N greekupsilondasiavaria           | N hebrewTav                |
| N greekupsilondiaeresis            | N hebrewTet                |
| N greekupsilondialytikaperispomeni | N hebrewTsadi              |
| N greekupsilondialytikatonos       | N hebrewTsadifinal         |
| N greekupsilondialytikavaria       | N hebrewVav                |
| N greekupsilonmacron               | N hebrewYod                |
| N greekupsilonoxia                 | N hebrewZayin              |
| N greekupsilonperispomeni          | N hstroke                  |
| N greekupsilonpsili                | N iacute                   |
| N greekupsilonpsiliperispomeni     | N ibreve                   |
| N greekupsilonpsilitonos           | N icaron                   |
| N greekupsilonpsilivaria           | N icircumflex              |
| N greekupsilontonos                | N ideographichalffillspace |
| N greekupsilonvaria                | N ideographicspace         |
| N greekupsilonvrachy               | N idiaeresis               |
| N greekvaria                       | N idotaccent               |
| N greekxi                          | N idotbelow                |
| N greekzeta                        | N idoublegrave             |
| N gstroke                          | N igrave                   |
| N guilsingleleft                   | N ihook                    |
| N guilsingleright                  | N iinvertedbreve           |

|                       |                    |
|-----------------------|--------------------|
| N ijligature          | N odotbelow        |
| N imacron             | N odoublegrave     |
| N iogonek             | N oeligature       |
| N itilde              | N ograve           |
| N jcaron              | N ohook            |
| N jcircumflex         | N ohorn            |
| N kcaron              | N ohornacute       |
| N kcommaaccent        | N ohorndotbelow    |
| N khook               | N ohorngrave       |
| N kkra                | N ohornhook        |
| N lacute              | N ohorntilde       |
| N lbar                | N ohungarumlaut    |
| N lcaron              | N oinvertedbreve   |
| N lcommaaccent        | N omacron          |
| N lcurl               | N oneeighth        |
| N ldotmiddle          | N onefifth         |
| N leftguillemot       | N onehalf          |
| N ljligature          | N onequarter       |
| N lstroke             | N onesixth         |
| N medspace            | N onesuperior      |
| N nacute              | N onethird         |
| N napostrophe         | N oogonek          |
| N narrownobreakspace  | N oogonekmacron    |
| N ncaron              | N ordfeminine      |
| N ncommaaccent        | N ordmasculine     |
| N ncurl               | N ostroke          |
| N neng                | N ostrokeacute     |
| N ngrave              | N otilde           |
| N njligature          | N otildemacron     |
| N nobreakspace        | N paragraphmark    |
| N ntilde              | N periodcentered   |
| N oacute              | N perthousand      |
| N obreve              | N phook            |
| N ocaron              | N punctuationspace |
| N ocircumflex         | N questiondown     |
| N ocircumflexacute    | N quotedbl         |
| N ocircumflexdotbelow | N quotedblbase     |
| N ocircumflexgrave    | N quotedblleft     |
| N ocircumflexhook     | N quotedblright    |
| N ocircumflextilde    | N quoteleft        |
| N odiaeresis          | N quoteright       |
| N odiaeresismacron    | N quotesingle      |
| N odotaccent          | N quotesinglebase  |
| N odotaccentmacron    | N racute           |

|                  |                   |
|------------------|-------------------|
| N rcaron         | N scommaaccent    |
| N rcommaaccent   | N sectionmark     |
| N rdoublegrave   | N seveneighths    |
| N registered     | N sixperemspace   |
| N rightguillemot | N slong           |
| N rinvertedbreve | N softthyphen     |
| N romanC         | N ssharp          |
| N romanD         | N stligature      |
| N romanI         | N tcaron          |
| N romanII        | N tcedilla        |
| N romanIII       | N tcommaaccent    |
| N romanIV        | N tcurl           |
| N romanIX        | N textAngstrom    |
| N romanL         | N textacute       |
| N romanM         | N textampersand   |
| N romanV         | N textasciicircum |
| N romanVI        | N textasciitilde  |
| N romanVII       | N textat          |
| N romanVIII      | N textbackslash   |
| N romanX         | N textbar         |
| N romanXI        | N textbottomcomma |
| N romanXII       | N textbottomdot   |
| N romanc         | N textbraceleft   |
| N romand         | N textbraceright  |
| N romani         | N textbreve       |
| N romanii        | N textbrokenbar   |
| N romaniii       | N textbullet      |
| N romaniv        | N textcaron       |
| N romanix        | N textcedilla     |
| N romanl         | N textcelsius     |
| N romanm         | N textcent        |
| N romanv         | N textcircledP    |
| N romanvi        | N textcircumflex  |
| N romanvii       | N textcomma       |
| N romanviii      | N textcurrency    |
| N romanx         | N textdag         |
| N romanxi        | N textddag        |
| N romanxii       | N textdegree      |
| N sacute         | N textdiaeresis   |
| N scaron         | N textdiv         |
| N scedilla       | N textdollar      |
| N schwa          | N textdong        |
| N schwahook      | N textdotaccent   |
| N scircumflex    | N textellipsis    |

|                     |                         |
|---------------------|-------------------------|
| N texteuro          | N udiaeresisacute       |
| N textfraction      | N udiaeresiscaron       |
| N textgrave         | N udiaeresisgrave       |
| N texthash          | N udiaeresismacron      |
| N texthorizontalbar | N udotbelow             |
| N texthungarumlaut  | N udoublegrave          |
| N texthyphen        | N ugrave                |
| N textkelvin        | N uhook                 |
| N textlognot        | N uhorn                 |
| N textmacron        | N uhornacute            |
| N textmho           | N uhorndotbelow         |
| N textminus         | N uhorngrave            |
| N textmu            | N uhornhook             |
| N textmultiply      | N uhorntilde            |
| N textnumero        | N uhungarumlaut         |
| N textogonek        | N uinvertedbreve        |
| N textohm           | N umacron               |
| N textounce         | N uogonek               |
| N textpercent       | N uring                 |
| N textperiod        | N utilde                |
| N textpm            | N wcircumflex           |
| N textring          | N yacute                |
| N textslash         | N ycircumflex           |
| N textsterling      | N ydiaeresis            |
| N texttilde         | N ydotbelow             |
| N textunderscore    | N ygrave                |
| N textyen           | N yhook                 |
| N thook             | N ymacron               |
| N thorn             | N ytilde                |
| N threeeighths      | N zacute                |
| N threefifths       | N zcaron                |
| N threeperemspace   | N zdotaccent            |
| N threequarter      | N zerowidthnobreakspace |
| N threesuperior     | N zerowidthspace        |
| N trademark         | N zhook                 |
| N tstroke           | N zstroke               |
| N twofifths         | N zwj                   |
| N twosuperior       | N zwnj                  |
| N twothirds         | F is_known              |
| N uacute            | D known                 |
| N ubreve            | F load                  |
| N ucaron            | F make_unicode_vector   |
| N ucircumflex       | D math                  |
| N udiaeresis        | T names                 |

## T unicodes

N A  
 N AE  
 N AEacute  
 N AEmacron  
 N Aacute  
 N Abreve  
 N Abreveacute  
 N Abrevecyrillic  
 N Abrevedotbelow  
 N Abrevegrave  
 N Abrevehookabove  
 N Abrevetilde  
 N Acaron  
 N Acircle  
 N Acircumflex  
 N Acircumflexacute  
 N Acircumflexdotbelow  
 N Acircumflexgrave  
 N Acircumflexhookabove  
 N Acircumflextilde  
 N Acyrillic  
 N Adblgrave  
 N Adieresis  
 N Adieresiscyrillic  
 N Adieresismacron  
 N Adotbelow  
 N Adotmacron  
 N Agrave  
 N Ahookabove  
 N Aiecyrillic  
 N Ainvertedbreve  
 N Alpha  
 N Alphanos  
 N Amacron  
 N Amonospace  
 N Aogonek  
 N Aring  
 N Aringacute  
 N Aringbelow  
 N Atilde  
 N Aybarmenian  
 N B  
 N Bcircle

N Bdotaccent  
 N Bdotbelow  
 N Becyrillic  
 N Benarmenian  
 N Beta  
 N Bhook  
 N Blinbelow  
 N Bmonospace  
 N Btopbar  
 N C  
 N Caarmenian  
 N Cacute  
 N Ccaron  
 N Ccedilla  
 N Ccedillaacute  
 N Ccircle  
 N Ccircumflex  
 N Cdot  
 N Cdotaccent  
 N Chaarmenian  
 N Cheabkhasiancyrillic  
 N Checyrillic  
 N Chedescenderabkhasiancyrillic  
 N Chedescendercyrillic  
 N Chedieresiscyrillic  
 N Cheharmenian  
 N Chekhakassiancyrillic  
 N Cheverticalstrokecyrillic  
 N Chi  
 N Chook  
 N Cmonospace  
 N Coarmenian  
 N D  
 N DZ  
 N DZcaron  
 N Daarmenian  
 N Dafrican  
 N Dcaron  
 N Dcedilla  
 N Dcircle  
 N Dcircumflexbelow  
 N Dcroat  
 N Ddotaccent  
 N Ddotbelow

|                        |                       |
|------------------------|-----------------------|
| N Decyrillic           | N Elevenroman         |
| N Deicoptic            | N Emacron             |
| N Delta                | N Emacronacute        |
| N Deltagreek           | N Emacrongrave        |
| N Dhook                | N Emcyrillic          |
| N Digammagreek         | N Emonospace          |
| N Djecyrillic          | N Encyrillic          |
| N Dlinebelow           | N Endescendercyrillic |
| N Dmonospace           | N Eng                 |
| N Dslash               | N Enghecyrillic       |
| N Dtopbar              | N Enhookcyrillic      |
| N Dz                   | N Egonek              |
| N Dzcaron              | N Eopen               |
| N Dzeabkhasiancyrillic | N Epsilon             |
| N Dzecyrillic          | N Epsilontonos        |
| N Dzhecyrillic         | N Ercyrillic          |
| N E                    | N Ereversed           |
| N Eacute               | N Ereversedcyrillic   |
| N Ebreve               | N Escyrillic          |
| N Ecaron               | N Esdescendercyrillic |
| N Ecedillabreve        | N Esh                 |
| N Echarmenian          | N Eta                 |
| N Ecircle              | N Etarmenian          |
| N Ecircumflex          | N Etatonos            |
| N Ecircumflexacute     | N Eth                 |
| N Ecircumflexbelow     | N Etilde              |
| N Ecircumflexdotbelow  | N Etildebelow         |
| N Ecircumflexgrave     | N Euro                |
| N Ecircumflexhookabove | N Ezh                 |
| N Ecircumflextilde     | N Ezhcaron            |
| N Ecyrillic            | N Ezhreversed         |
| N Edblgrave            | N F                   |
| N Edieresis            | N Fcircle             |
| N Edot                 | N Fdotaccent          |
| N Edotaccent           | N Feharmenian         |
| N Edotbelow            | N Feicoptic           |
| N Efcyrillic           | N Fhook               |
| N Egrave               | N Fitacyrillic        |
| N Eharmenian           | N Fiveroman           |
| N Ehookabove           | N Fmonospace          |
| N Eightroman           | N Fourroman           |
| N Einvertedbreve       | N G                   |
| N Eiotifiedcyrillic    | N GBSquare            |
| N Elcyrillic           | N Gacute              |

|                         |                           |
|-------------------------|---------------------------|
| N Gamma                 | N I                       |
| N Gammaafrican          | N IAcyrillic              |
| N Gangiaoptic           | N IJ                      |
| N Gbreve                | N IUcyrillic              |
| N Gcaron                | N Iacute                  |
| N Gcedilla              | N Ibreve                  |
| N Gcircle               | N Icaron                  |
| N Gcircumflex           | N Icircle                 |
| N Gcommaaccent          | N Icircumflex             |
| N Gdot                  | N Icyrillic               |
| N Gdotaccent            | N Idblgrave               |
| N Gecyrillic            | N Idieresis               |
| N Ghadarmenian          | N Idieresisacute          |
| N Ghemiddlehookcyrillic | N Idieresiscyrillic       |
| N Ghestrokecyrillic     | N Idot                    |
| N Gheupturncyrillic     | N Idotaccent              |
| N Ghook                 | N Idotbelow               |
| N Gimarmenian           | N Iebrevecyrillic         |
| N Gjecyrillic           | N Iecyrillic              |
| N Gmacron               | N Ifraktur                |
| N Gmonospace            | N Igrave                  |
| N Gsmallhook            | N Ihookabove              |
| N Gstroke               | N Iicyrillic              |
| N H                     | N Iinvertedbreve          |
| N H18533                | N Iishortcyrillic         |
| N H18543                | N Imacron                 |
| N H18551                | N Imacroncyrillic         |
| N H22073                | N Imonospace              |
| N HPsquare              | N Iniarmenian             |
| N Haabkhasiancyrillic   | N Iocyrllic               |
| N Hdescendercyrillic    | N Iogonek                 |
| N Hardsigncyrillic      | N Iota                    |
| N Hbar                  | N Iotaafrican             |
| N Hbrevebelow           | N Iotadieresis            |
| N Hcedilla              | N Iotatonos               |
| N Hcircle               | N Istroke                 |
| N Hcircumflex           | N Itilde                  |
| N Hdieresis             | N Itildebelow             |
| N Hdotaccent            | N Izhitsacyrillic         |
| N Hdotbelow             | N Izhitsadblgravecyrillic |
| N Hmonospace            | N J                       |
| N Hoarmenian            | N Jaarmenian              |
| N Horicoptic            | N Jcircle                 |
| N Hsquare               | N Jcircumflex             |

N Jecyrillic  
 N Jheharmerian  
 N Jmonospace  
 N K  
 N KBsquare  
 N KKsquare  
 N Kabashkircyrillic  
 N Kacute  
 N Kacyrillic  
 N Kadescendercyrillic  
 N Kahookcyrillic  
 N Kappa  
 N Kastrokecyrillic  
 N Kaverticalsestrokecyrillic  
 N Kcaron  
 N Kcedilla  
 N Kcircle  
 N Kcommaaccent  
 N Kdotbelow  
 N Keharmerian  
 N Kenarmerian  
 N Khacyrillic  
 N Kheicoptic  
 N Khook  
 N Kjecyrillic  
 N Klinebelow  
 N Kmonospace  
 N Koppacyrillic  
 N Koppagreek  
 N Ksicyrillic  
 N L  
 N LJ  
 N Lacute  
 N Lambda  
 N Lcaron  
 N Lcedilla  
 N Lcircle  
 N Lcircumflexbelow  
 N Lcommaaccent  
 N Ldot  
 N Ldotaccent  
 N Ldotbelow  
 N Ldotbelowmacron  
 N Liwnarmerian

N Lj  
 N Ljecyrillic  
 N Llinebelow  
 N Lmonospace  
 N Lslash  
 N M  
 N MBsquare  
 N Macute  
 N Mcircle  
 N Mdotaccent  
 N Mdotbelow  
 N Menarmerian  
 N Mmonospace  
 N Mturned  
 N Mu  
 N N  
 N NJ  
 N Nacute  
 N Ncaron  
 N Ncedilla  
 N Ncircle  
 N Ncircumflexbelow  
 N Ncommaaccent  
 N Ndotaccent  
 N Ndotbelow  
 N Nhookleft  
 N Nineroman  
 N Nj  
 N Njecyrillic  
 N Nlinebelow  
 N Nmonospace  
 N Nowarmerian  
 N Ntilde  
 N Nu  
 N O  
 N OE  
 N Oacute  
 N Obarredcyrillic  
 N Obarreddieresiscyrillic  
 N Obreve  
 N Ocaron  
 N Ocenteredtilde  
 N Ocicle  
 N Ocircumflex



N 0circumflexacute  
 N 0circumflexdotbelow  
 N 0circumflexgrave  
 N 0circumflexhookabove  
 N 0circumflextilde  
 N 0cyrillic  
 N 0dblacute  
 N 0dblgrave  
 N 0dieresis  
 N 0dieresiscyrillic  
 N 0dotbelow  
 N 0grave  
 N 0harmerian  
 N 0hm  
 N 0hookabove  
 N 0horn  
 N 0hornacute  
 N 0horndotbelow  
 N 0horngrave  
 N 0hornhookabove  
 N 0horntilde  
 N 0hungarumlaut  
 N 0i  
 N 0invertedbreve  
 N 0macron  
 N 0macronacute  
 N 0macrongrave  
 N 0omega  
 N 0megacyrillic  
 N 0megagreek  
 N 0megaroundcyrillic  
 N 0megatitlocyrillic  
 N 0megatonos  
 N 0micron  
 N 0microntonos  
 N 0monospace  
 N 0neroman  
 N 0ogonek  
 N 0ogonekmacron  
 N 0open  
 N 0slash  
 N 0slashacute  
 N 0strokeacute  
 N 0tcyrillic

N 0tilde  
 N 0tildeacute  
 N 0tildedieresis  
 N P  
 N Pacute  
 N Pcircle  
 N Pdotaccent  
 N Pecyrillic  
 N Peharmenian  
 N Pemiddlehookcyrillic  
 N Phi  
 N Phook  
 N Pi  
 N Piwrarmenian  
 N Pmonospace  
 N Psi  
 N Psicyrillic  
 N Q  
 N Qcircle  
 N Qmonospace  
 N R  
 N Raarmenian  
 N Racute  
 N Rcaron  
 N Rcedilla  
 N Rcircle  
 N Rcommaaccent  
 N Rdblgrave  
 N Rdotaccent  
 N Rdotbelow  
 N Rdotbelowmacron  
 N Reharmerian  
 N Rfraktur  
 N Rho  
 N Rinvertedbreve  
 N Rlinebelow  
 N Rmonospace  
 N Rsmallinverted  
 N Rsmallinvertedsuperior  
 N S  
 N SF010000  
 N SF020000  
 N SF030000  
 N SF040000

|            |                       |
|------------|-----------------------|
| N SF050000 | N SF90000             |
| N SF060000 | N Sacute              |
| N SF070000 | N Sacutedotaccent     |
| N SF080000 | N Sampigreek          |
| N SF090000 | N Scaron              |
| N SF10000  | N Scarondotaccent     |
| N SF100000 | N Scedilla            |
| N SF110000 | N Schwa               |
| N SF190000 | N Schwacyrillic       |
| N SF20000  | N Schwadiesiscyrillic |
| N SF200000 | N Scircle             |
| N SF210000 | N Scircumflex         |
| N SF220000 | N Scommaaccent        |
| N SF230000 | N Sdotaccent          |
| N SF240000 | N Sdotbelow           |
| N SF250000 | N Sdotbelowdotaccent  |
| N SF260000 | N Seharmerian         |
| N SF270000 | N Sevenroman          |
| N SF280000 | N Shaarmenian         |
| N SF30000  | N Shacyrillic         |
| N SF360000 | N Shchacyrillic       |
| N SF370000 | N Sheicoptic          |
| N SF380000 | N Shhacyrillic        |
| N SF390000 | N Shimacoptic         |
| N SF40000  | N Sigma               |
| N SF400000 | N Sixroman            |
| N SF410000 | N Smonospace          |
| N SF420000 | N Softsigncyrillic    |
| N SF430000 | N Stigmagreek         |
| N SF440000 | N T                   |
| N SF450000 | N Tau                 |
| N SF460000 | N Tbar                |
| N SF470000 | N Tcaron              |
| N SF480000 | N Tcedilla            |
| N SF490000 | N Tcircle             |
| N SF50000  | N Tcircumflexbelow    |
| N SF500000 | N Tcommaaccent        |
| N SF510000 | N Tdotaccent          |
| N SF520000 | N Tdotbelow           |
| N SF530000 | N Tcyrillic           |
| N SF540000 | N Tedescendercyrillic |
| N SF60000  | N Tenroman            |
| N SF70000  | N Tetsecyrillic       |
| N SF80000  | N Theta               |

|                         |                                   |
|-------------------------|-----------------------------------|
| N Thook                 | N Ukcyrillic                      |
| N Thorn                 | N Umacron                         |
| N Threeroman            | N Umacroncyrillic                 |
| N Tiwnarmenian          | N Umacrondieresis                 |
| N Tlinebelow            | N Umonospace                      |
| N Tmonospace            | N Uogonek                         |
| N Toarmenian            | N Upsilon                         |
| N Tonefive              | N Upsilonl                        |
| N Tonesix               | N Upsilonacutehookssymbolgreek    |
| N Tonetwo               | N Upsilonafrican                  |
| N Tretroflexhook        | N Upsilondieresis                 |
| N Tsecyrillic           | N Upsilondieresishookssymbolgreek |
| N Tshecyrillic          | N Upsilonhookssymbol              |
| N Twelveroman           | N Upsilontonos                    |
| N Tworoman              | N Uring                           |
| N U                     | N Ushortcyrillic                  |
| N Uacute                | N Ustraightcyrillic               |
| N Ubreve                | N Ustraightstrokecyrillic         |
| N Ucaron                | N Utilde                          |
| N Ucircle               | N Utildeacute                     |
| N Ucircumflex           | N Utildebelow                     |
| N Ucircumflexbelow      | N V                               |
| N Ucyrillic             | N Vcircle                         |
| N Udblacute             | N Vdotbelow                       |
| N Udblgrave             | N Vecyrillic                      |
| N Udieresis             | N Vewarmenian                     |
| N Udieresisacute        | N Vhook                           |
| N Udieresisbelow        | N Vmonospace                      |
| N Udieresiscaron        | N Voarmenian                      |
| N Udieresiscyrillic     | N Vtilde                          |
| N Udieresisgrave        | N W                               |
| N Udieresismacron       | N Wacute                          |
| N Udotbelow             | N Wcircle                         |
| N Ugrave                | N Wcircumflex                     |
| N Uhookabove            | N Wdieresis                       |
| N Uhorn                 | N Wdotaccent                      |
| N Uhornacute            | N Wdotbelow                       |
| N Uhorndotbelow         | N Wgrave                          |
| N Uhorngrave            | N Wmonospace                      |
| N Uhornhookabove        | N X                               |
| N Uhorntilde            | N Xcircle                         |
| N Uhungarumlaut         | N Xdieresis                       |
| N Uhungarumlautcyrillic | N Xdotaccent                      |
| N Uinvertedbreve        | N Xeharmenian                     |

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|-----------------------------|----------------------------|
| N Xi                        | N Zstroke                  |
| N Xmonospace                | N a                        |
| N Y                         | N aabengali                |
| N Yacute                    | N aacute                   |
| N Yatcyrillic               | N aadeva                   |
| N Ycircle                   | N aagujarati               |
| N Ycircumflex               | N aagurmukhi               |
| N Ydieresis                 | N aamatragurmukhi          |
| N Ydotaccent                | N aarusquare               |
| N Ydotbelow                 | N aavowelsignbengali       |
| N Yericyrillic              | N aavowelsigndeva          |
| N Yerudieresiscyrillic      | N aavowelsigngujarati      |
| N Ygrave                    | N abbreviationmarkarmenian |
| N Yhook                     | N abbreviationsigndeva     |
| N Yhookabove                | N abengali                 |
| N Yiarmenian                | N abopomofo                |
| N Yicyrillic                | N abreve                   |
| N Yiwnarmenian              | N abreveacute              |
| N Ymonospace                | N abrevecyrillic           |
| N Ytilde                    | N abrevedotbelow           |
| N Yusbigcyrillic            | N abrevegrave              |
| N Yusbigiotifiedcyrillic    | N abrevehookabove          |
| N Yuslittlecyrillic         | N abrevetilde              |
| N Yuslittleiotifiedcyrillic | N acaron                   |
| N Z                         | N acircle                  |
| N Zaarmenian                | N acircumflex              |
| N Zacute                    | N acircumflexacute         |
| N Zcaron                    | N acircumflexdotbelow      |
| N Zcircle                   | N acircumflexgrave         |
| N Zcircumflex               | N acircumflexhookabove     |
| N Zdot                      | N acircumflextilde         |
| N Zdotaccent                | N acute                    |
| N Zdotbelow                 | N acutebelowcmb            |
| N Zecyrillic                | N acutecmb                 |
| N Zedescendercyrillic       | N acutecomb                |
| N Zedieresiscyrillic        | N acutedeva                |
| N Zeta                      | N acutelowmod              |
| N Zhearmanian               | N acutetonecmb             |
| N Zhebrevecyrillic          | N acyrillic                |
| N Zhecyrillic               | N adblgrave                |
| N Zhedescendercyrillic      | N addakgurmukhi            |
| N Zhedieresiscyrillic       | N adeva                    |
| N Zlinebelow                | N adieresis                |
| N Zmonospace                | N adieresiscyrillic        |

|                   |             |
|-------------------|-------------|
| N adieresismacron | N afii10052 |
| N adotbelow       | N afii10053 |
| N adotmacron      | N afii10054 |
| N ae              | N afii10055 |
| N aeacute         | N afii10056 |
| N aekorean        | N afii10057 |
| N aemacron        | N afii10058 |
| N afii00208       | N afii10059 |
| N afii08941       | N afii10060 |
| N afii10017       | N afii10061 |
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| N afii10019       | N afii10065 |
| N afii10020       | N afii10066 |
| N afii10021       | N afii10067 |
| N afii10022       | N afii10068 |
| N afii10023       | N afii10069 |
| N afii10024       | N afii10070 |
| N afii10025       | N afii10071 |
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| N afii10051       | N afii10097 |

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| N afii10101 | N afii57416 |
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| N afii10109 | N afii57424 |
| N afii10110 | N afii57425 |
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| N afii10146 | N afii57427 |
| N afii10147 | N afii57428 |
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| N afii10196 | N afii57433 |
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| N afii57636 | N afii57799        |
| N afii57645 | N afii57800        |
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| N afii57667 | N afii57806        |
| N afii57668 | N afii57807        |
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| N afii57674 | N afii61289        |
| N afii57675 | N afii61352        |
| N afii57676 | N afii61573        |
| N afii57677 | N afii61574        |
| N afii57678 | N afii61575        |
| N afii57679 | N afii61664        |
| N afii57680 | N afii63167        |
| N afii57681 | N afii64937        |
| N afii57682 | N agrave           |
| N afii57683 | N agujarati        |
| N afii57684 | N agurmukhi        |
| N afii57685 | N ahiragana        |
| N afii57686 | N ahookabove       |
| N afii57687 | N aibengali        |
| N afii57688 | N aibopomofo       |
| N afii57689 | N aideva           |
| N afii57690 | N aiecyrillic      |
| N afii57694 | N aigujarati       |
| N afii57695 | N aigurmukhi       |
| N afii57700 | N aimatragurmukhi  |
| N afii57705 | N ainarabic        |
| N afii57716 | N ainfinalarabic   |
| N afii57717 | N aininitialarabic |

|                             |                      |
|-----------------------------|----------------------|
| N ainmedialarabic           | N angleright         |
| N ainvertedbreve            | N angstrom           |
| N aivowelsignbengali        | N anoteleia          |
| N aivowelsigndeva           | N anudattadeva       |
| N aivowelsigngujarati       | N anusvarabengali    |
| N akatakana                 | N anusvaradeva       |
| N akatakanahalfwidth        | N anusvaragujarati   |
| N akorean                   | N aogonek            |
| N alef                      | N apaatosquare       |
| N alefarabic                | N aparen             |
| N alefdageshhebrew          | N apostrophearmenian |
| N aleffinalarabic           | N apostrophemod      |
| N alefhamzaaboveearabic     | N apple              |
| N alefhamzaabovefinalarabic | N approaches         |
| N alefhamzabelowarabic      | N approxequal        |
| N alefhamzabelowfinalarabic | N approxequalorimage |
| N alefhebrew                | N approximatelyequal |
| N aleflamedhebrew           | N araeaekorean       |
| N alefmaddaaboveearabic     | N araeaakorean       |
| N alefmaddaabovefinalarabic | N arc                |
| N alefmaksuraarabic         | N arighthalfring     |
| N alefmaksurafinalarabic    | N aring              |
| N alefmaksurainitialarabic  | N aringacute         |
| N alefmaksuramedialarabic   | N aringbelow         |
| N alefpatahhebrew           | N arrowboth          |
| N alefqamatshebrew          | N arrowdashdown      |
| N aleph                     | N arrowdashleft      |
| N allequal                  | N arrowdashright     |
| N alpha                     | N arrowdashup        |
| N alphanotos                | N arrowdblboth       |
| N amacron                   | N arrowdbldown       |
| N amonospace                | N arrowdblleft       |
| N ampersand                 | N arrowdblright      |
| N ampersandmonospace        | N arrowdblup         |
| N amsquare                  | N arrowdown          |
| N anbopomofo                | N arrowdownleft      |
| N angbopomofo               | N arrowdownright     |
| N angkhankhuthai            | N arrowdownwhite     |
| N angle                     | N arrowheaddownmod   |
| N anglebracketleft          | N arrowheadleftmod   |
| N anglebracketleftvertical  | N arrowheadrightmod  |
| N anglebracketright         | N arrowheadupmod     |
| N anglebracketrightvertical | N arrowleft          |
| N angleleft                 | N arrowleftdbl       |



|                           |                         |
|---------------------------|-------------------------|
| N arrowleftdblstroke      | N augurmukhi            |
| N arrowleftoverright      | N aulengthmarkbengali   |
| N arrowleftwhite          | N aumatragurmukhi       |
| N arrowright              | N auvowelsignbengali    |
| N arrowrightdblstroke     | N auvowelsigndeva       |
| N arrowrightheavy         | N auvowelsigngujarati   |
| N arrowrightoverleft      | N avagrahadeva          |
| N arrowrightwhite         | N aybarmenian           |
| N arrowtableft            | N ayin                  |
| N arrowtabright           | N ayinaltonehebrew      |
| N arrowup                 | N ayinhebrew            |
| N arrowupdn               | N b                     |
| N arrowupdnbs             | N babengali             |
| N arrowupdownbase         | N backslash             |
| N arrowupleft             | N backslashmonospace    |
| N arrowupleftofdown       | N badeva                |
| N arrowupright            | N bagujarati            |
| N arrowupwhite            | N bagurmukhi            |
| N asciicircum             | N bahiragana            |
| N asciicircummonospace    | N bahtthai              |
| N asciitilde              | N bakatakana            |
| N asciitildemonospace     | N bar                   |
| N ascript                 | N barmonospace          |
| N ascriptturned           | N bbopomofo             |
| N asmallhiragana          | N bcircle               |
| N asmallkatakana          | N bdotaccent            |
| N asmallkatakanahalfwidth | N bdotbelow             |
| N asterisk                | N beamedsixteenthnotes  |
| N asteriskaltonearabic    | N because               |
| N asteriskarabic          | N becyrillic            |
| N asteriskmath            | N beharabic             |
| N asteriskmonospace       | N behfinalarabic        |
| N asterisksmall           | N behinitialarabic      |
| N asterism                | N behiragana            |
| N asymptoticallyequal     | N behmedialarabic       |
| N at                      | N behmeeminitialarabic  |
| N atilde                  | N behmeemisolatedarabic |
| N atmonospace             | N behnoonfinalarabic    |
| N atsmall                 | N bekatakana            |
| N aturned                 | N benarmenian           |
| N aubengali               | N bet                   |
| N aubopomofo              | N beta                  |
| N audeva                  | N betasymbolgreek       |
| N augujarati              | N betdagesh             |

|                                       |                          |
|---------------------------------------|--------------------------|
| N betdageshhebrew                     | N braceleft              |
| N bethebrew                           | N braceleftmonospace     |
| N betrafehebrew                       | N braceleftsmall         |
| N bhabengali                          | N braceleftvertical      |
| N bhadeva                             | N braceright             |
| N bhagujarati                         | N bracerightmonospace    |
| N bhagurmukhi                         | N bracerightsmall        |
| N bhook                               | N bracerightvertical     |
| N bihiragana                          | N bracketleft            |
| N bikatakana                          | N bracketleftmonospace   |
| N bilabialclick                       | N bracketright           |
| N bindigurmukhi                       | N bracketrightmonospace  |
| N birusquare                          | N breve                  |
| N blackcircle                         | N brevebelowcmb          |
| N blackdiamond                        | N brevecmb               |
| N blackdownpointingtriangle           | N breveinvertedbelowcmb  |
| N blackleftpointingpointer            | N breveinvertedcmb       |
| N blackleftpointingtriangle           | N breveinverteddoublecmb |
| N blacklenticularbracketleft          | N bridgebelowcmb         |
| N blacklenticularbracketleftvertical  | N bridgeinvertedbelowcmb |
| N blacklenticularbracketright         | N brokenbar              |
| N blacklenticularbracketrightvertical | N bstroke                |
| N blacklowerlefttriangle              | N btopbar                |
| N blacklowerrighttriangle             | N buhiragana             |
| N blackrectangle                      | N bukatakana             |
| N blackrightpointingpointer           | N bullet                 |
| N blackrightpointingtriangle          | N bulletinverse          |
| N blacksmallsquare                    | N bulletoperator         |
| N blacksmilingface                    | N bullseye               |
| N blacksquare                         | N c                      |
| N blackstar                           | N caarmenian             |
| N blackupperlefttriangle              | N cabengali              |
| N blackupperrighttriangle             | N cacute                 |
| N blackuppointingsmalltriangle        | N cadeva                 |
| N blackuppointingtriangle             | N cagujarati             |
| N blank                               | N cagurmukhi             |
| N blinebelow                          | N calsquare              |
| N block                               | N candrabindubengali     |
| N bmonospace                          | N candrabinducmb         |
| N bobaimaithai                        | N candrabindudeva        |
| N bohiragana                          | N candrabindugujarati    |
| N bokatakana                          | N capslock               |
| N bparen                              | N careof                 |
| N bqsquare                            | N caron                  |

|                                 |                            |
|---------------------------------|----------------------------|
| N caronbelowcmb                 | N cieucacirclekorean       |
| N caroncmb                      | N cieucaparenkorean        |
| N carriagereturn                | N cieuccirclekorean        |
| N cbopomofo                     | N cieuckorean              |
| N ccaron                        | N cieucparenkorean         |
| N ccedilla                      | N cieucuparenkorean        |
| N ccedillaacute                 | N circle                   |
| N ccircle                       | N circlemultiply           |
| N ccircumflex                   | N circleot                 |
| N ccurl                         | N circleplus               |
| N cdot                          | N circlepostalmark         |
| N cdotaccent                    | N circlewithlefthalfblack  |
| N cdsquare                      | N circlewithrighthalfblack |
| N cedilla                       | N circumflex               |
| N cedillacmb                    | N circumflexbelowcmb       |
| N cent                          | N circumflexcmb            |
| N centigrade                    | N clear                    |
| N centmonospace                 | N clickalveolar            |
| N chaarmenian                   | N clickdental              |
| N chabengali                    | N clicklateral             |
| N chadeva                       | N clickretroflex           |
| N chagujarati                   | N club                     |
| N chagurmukhi                   | N clubsuitblack            |
| N chbopomofo                    | N clubsuitwhite            |
| N cheabkhasiancyrillic          | N cmcubedsquare            |
| N checkmark                     | N cmonospace               |
| N checyrillic                   | N cmsquaredsquare          |
| N chedescenderabkhasiancyrillic | N coarmenian               |
| N chedescendercyrillic          | N colon                    |
| N chedieresiscyrillic           | N colonmonetary            |
| N cheharmenian                  | N colonmonospace           |
| N chekhakassiancyrillic         | N colonsign                |
| N cheverticalstrokecyrillic     | N colonsmall               |
| N chi                           | N colontriangularhalfmod   |
| N chieuchacirclekorean          | N colontriangulararmod     |
| N chieuchaparenkorean           | N comma                    |
| N chieuchcirclekorean           | N commaabovecmb            |
| N chieuchkorean                 | N commaaboveughtcmb        |
| N chieuchparenkorean            | N commaarabic              |
| N chochangthai                  | N commaarmenian            |
| N chochanthai                   | N commamonospace           |
| N chochingthai                  | N commareversedabovecmb    |
| N chochoethai                   | N commareversedmod         |
| N chook                         | N commasmall               |

|                               |                              |
|-------------------------------|------------------------------|
| N commaturnedabovvecmb        | N cornerbracketrightvertical |
| N commaturnedmod              | N corporationsquare          |
| N compass                     | N cosquare                   |
| N congruent                   | N coverkgsquare              |
| N contourintegral             | N cparen                     |
| N control                     | N cruzeiro                   |
| N controlACK                  | N cstretched                 |
| N controlBEL                  | N curlyand                   |
| N controlBS                   | N curlyor                    |
| N controlCAN                  | N currency                   |
| N controlCR                   | N d                          |
| N controlDC1                  | N daarmenian                 |
| N controlDC2                  | N dabengali                  |
| N controlDC3                  | N dadarabic                  |
| N controlDC4                  | N dadeva                     |
| N controlDEL                  | N dadfinalarabic             |
| N controlDLE                  | N dadinitialarabic           |
| N controlEM                   | N dadmedialarabic            |
| N controlENQ                  | N dagesh                     |
| N controlEOT                  | N dageshhebrew               |
| N controlESC                  | N dagger                     |
| N controlETB                  | N daggerdbl                  |
| N controlETX                  | N dagujarati                 |
| N controlFF                   | N dagurmukhi                 |
| N controlFS                   | N dahiragana                 |
| N controlGS                   | N dakatakana                 |
| N controlHT                   | N dalarabic                  |
| N controlLF                   | N dalet                      |
| N controlNAK                  | N daletdagesh                |
| N controlRS                   | N daletdageshhebrew          |
| N controlSI                   | N daletthatafpatah           |
| N controlSO                   | N daletthatafpatahhebrew     |
| N controlSOT                  | N daletthatafsegol           |
| N controlSTX                  | N daletthatafsegolhebrew     |
| N controlSUB                  | N dalethebrew                |
| N controlSYN                  | N dalethiriq                 |
| N controlUS                   | N dalethiriqhebrew           |
| N controlVT                   | N daletholam                 |
| N copyright                   | N daletholamhebrew           |
| N cornerbracketleft           | N daletpatah                 |
| N cornerbracketlefthalfwidth  | N daletpatahhebrew           |
| N cornerbracketleftvertical   | N daletqamats                |
| N cornerbracketright          | N daletqamatshebrew          |
| N cornerbracketrighthalfwidth | N daletqubuts                |

|                                |                                       |
|--------------------------------|---------------------------------------|
| N daletqubutshebrew            | N ddalfinalarabic                     |
| N daletsegol                   | N dddhadeva                           |
| N daletsegolhebrew             | N ddhabengali                         |
| N daletsheva                   | N ddhadeva                            |
| N daletshevahebrew             | N ddhagujarati                        |
| N dalettsere                   | N ddhagurmukhi                        |
| N dalettserehebrew             | N ddotaccent                          |
| N dalfinalarabic               | N ddotbelow                           |
| N dammaarabic                  | N decimalseparatorarabic              |
| N dammalowarabic               | N decimalseparatorpersian             |
| N dammatanaltonearabic         | N decyrillic                          |
| N dammatanarabic               | N degree                              |
| N danda                        | N dehihebrew                          |
| N dargahebrew                  | N dehiragana                          |
| N dargalefthebrew              | N deicoptic                           |
| N dasiapneumatacyrillicmb      | N dekatakana                          |
| N dblanglebracketleft          | N deleteleft                          |
| N dblanglebracketleftvertical  | N deleteright                         |
| N dblanglebracketright         | N delta                               |
| N dblanglebracketrightvertical | N deltaturned                         |
| N dblarchinvertedbelowcmb      | N denominatorminusonenumeratorbengali |
| N dbllarrowleft                | N dezhang                             |
| N dbllarrowright               | N dhabengali                          |
| N dbldanda                     | N dhadeva                             |
| N dblgravecmb                  | N dhagujarati                         |
| N dblintegral                  | N dhagurmukhi                         |
| N dbllowline                   | N dhook                               |
| N dbllowlinecmb                | N dialytikatonos                      |
| N dbloverlinecmb               | N dialytikatonoscmb                   |
| N dblprimemod                  | N diamond                             |
| N dblverticalbar               | N diamondsuitwhite                    |
| N dblverticallineabovecmb      | N dieresis                            |
| N dbopomofo                    | N dieresisbelowcmb                    |
| N dbsquare                     | N dieresiscmb                         |
| N dcaron                       | N dieresis-tonos                      |
| N dcedilla                     | N dihiragana                          |
| N dcircle                      | N dikatakana                          |
| N dcircumflexbelow             | N dittomark                           |
| N dcroat                       | N divide                              |
| N ddabengali                   | N divides                             |
| N ddadeva                      | N divisionslash                       |
| N ddagujarati                  | N djecyrillic                         |
| N ddagurmukhi                  | N dkshade                             |
| N ddalarabic                   | N dlinebelow                          |

N dlsquare  
 N dmacron  
 N dmonospace  
 N dnblock  
 N dochadathai  
 N dodekthai  
 N dohiragana  
 N dokatakana  
 N dollar  
 N dollarmonospace  
 N dollarsmall  
 N dong  
 N dorusquare  
 N dotaccent  
 N dotaccentcmb  
 N dotbelowcmb  
 N dotbelowcomb  
 N dotkatakana  
 N dotlessi  
 N dotlessj  
 N dotlessjstrokehook  
 N dotmath  
 N dottedcircle  
 N doubleyodpatah  
 N doubleyodpatahhebrew  
 N downtackbelowcmb  
 N downtackmod  
 N dparen  
 N dtail  
 N dtopbar  
 N duhiragana  
 N dukatakana  
 N dz  
 N dzaltone  
 N dzcaron  
 N dzcurl  
 N dzeabkhasiancyrillic  
 N dzecyrillic  
 N dzhecyrillic  
 N e  
 N eacute  
 N earth  
 N ebengali  
 N ebopomofo

N ebreve  
 N ecandradeva  
 N ecandragujarati  
 N ecandravowelsigndeva  
 N ecandravowelsignujarati  
 N ecaron  
 N ecedillabreve  
 N echarmenian  
 N echyiwnarmenian  
 N ecircle  
 N ecircumflex  
 N ecircumflexacute  
 N ecircumflexbelow  
 N ecircumflexdotbelow  
 N ecircumflexgrave  
 N ecircumflexhookabove  
 N ecircumflextilde  
 N ecyrillic  
 N edblgrave  
 N edeva  
 N edieresis  
 N edot  
 N edotaccent  
 N edotbelow  
 N eegurmukhi  
 N eematragurmukhi  
 N efcyrillic  
 N egrave  
 N egujarati  
 N eharmanian  
 N ehbopomofo  
 N ehiragana  
 N ehookabove  
 N eibopomofo  
 N eight  
 N eightarabic  
 N eightbengali  
 N eightcircle  
 N eightcircleinversesansserif  
 N eightdeva  
 N eightteencircle  
 N eighteenparen  
 N eighteenperiod  
 N eightgujarati

|                         |                           |
|-------------------------|---------------------------|
| N eightgurmukhi         | N enhookcyrillic          |
| N eighthackarabic       | N enspace                 |
| N eighthangzhou         | N eogonek                 |
| N eighthnotebeamed      | N eokorean                |
| N eightideographicparen | N eopen                   |
| N eightinferior         | N eopenclosed             |
| N eightmonospace        | N eopenreversed           |
| N eightparen            | N eopenreversedclosed     |
| N eightperiod           | N eopenreversedhook       |
| N eightpersian          | N eparen                  |
| N eightroman            | N epsilon                 |
| N eightsuperior         | N epsilontonos            |
| N eightthai             | N equal                   |
| N einvertedbreve        | N equalmonospace          |
| N eiotifiedcyrillic     | N equalsmall              |
| N ekatakana             | N equalsuperior           |
| N ekatakanahalfwidth    | N equivalence             |
| N ekonkargurmukhi       | N erbopomofo              |
| N ekorean               | N ercyrillic              |
| N elcyrillic            | N ereversed               |
| N element               | N ereversedcyrillic       |
| N elevencircle          | N escyrillic              |
| N elevenparen           | N esdescendercyrillic     |
| N elevenperiod          | N esh                     |
| N elevenroman           | N eshcurl                 |
| N ellipsis              | N eshortdeva              |
| N ellipsisvertical      | N eshortvowelsigndeva     |
| N emacron               | N eshreversedloop         |
| N emacronacute          | N eshsquatreversed        |
| N emacrongrave          | N esmallhiragana          |
| N emcyrillic            | N esmallkatakana          |
| N emdash                | N esmallkatakanahalfwidth |
| N emdashvertical        | N estimated               |
| N emonospace            | N eta                     |
| N emphasismarkarmenian  | N etarmenian              |
| N emptyset              | N etatonos                |
| N enbopomofo            | N eth                     |
| N encyrillic            | N etilde                  |
| N endash                | N etildebelow             |
| N endashvertical        | N etnahtafoukhhebrew      |
| N endescendercyrillic   | N etnahtafoukhlefthebrew  |
| N eng                   | N etnahtahebrew           |
| N engbopomofo           | N etnahtalefthebrew       |
| N enghecyrillic         | N eturned                 |

|                      |                              |
|----------------------|------------------------------|
| N eukorean           | N finalkafdagesh             |
| N euro               | N finalkafdageshhebrew       |
| N evowelsignbengali  | N finalkafhebrew             |
| N evowelsigndeva     | N finalkafqamats             |
| N evowelsigngujarati | N finalkafqamatshebrew       |
| N exclam             | N finalkafsheva              |
| N exclamarmenian     | N finalkafshevahebrew        |
| N exclamdbl          | N finalmem                   |
| N exclamdown         | N finalmemhebrew             |
| N exclammonospace    | N finalnun                   |
| N existential        | N finalnunhebrew             |
| N ezh                | N finalpe                    |
| N ezhcaron           | N finalpehebrew              |
| N ezhcurl            | N finaltsadi                 |
| N ezhreversed        | N finaltsadihebrew           |
| N ezhtail            | N firsttonechinese           |
| N f                  | N fisheye                    |
| N fadeva             | N fitacyrillic               |
| N fagurmukhi         | N five                       |
| N fahrenheit         | N fivearabic                 |
| N fathaarabic        | N fivebengali                |
| N fathalowarabic     | N fivecircle                 |
| N fathatanarabic     | N fivecircleinversesansserif |
| N fbopomofo          | N fivedeva                   |
| N fcircle            | N fiveeighths                |
| N fdotaccent         | N fivegujarati               |
| N feharabic          | N fivegurmukhi               |
| N feharmenian        | N fivehackarabic             |
| N fehfinalarabic     | N fivehangzhou               |
| N fehinitialarabic   | N fiveideographicparen       |
| N fehmedialarabic    | N fiveinferior               |
| N feicoptic          | N fivemonospace              |
| N female             | N fiveparen                  |
| N ff                 | N fiveperiod                 |
| N ffi                | N fivepersian                |
| N ffl                | N fiveroman                  |
| N fi                 | N fivesuperior               |
| N fifteencircle      | N fivethai                   |
| N fifteenparen       | N fl                         |
| N fifteenperiod      | N florin                     |
| N figuredash         | N fmonospace                 |
| N filledbox          | N fmsquare                   |
| N filledrect         | N fofanthai                  |
| N finalkaf           | N fofathai                   |



N fongmanthai  
 N forall  
 N four  
 N fourarabic  
 N fourbengali  
 N fourcircle  
 N fourcircleinversesansserif  
 N fourdeva  
 N fourgujarati  
 N fourgurmukhi  
 N fourhackarabic  
 N fourhangzhou  
 N fourideographicparen  
 N fourinferior  
 N fourmonospace  
 N fournumeratorbengali  
 N fourparen  
 N fourperiod  
 N fourpersian  
 N fourroman  
 N foursuperior  
 N fourteencircle  
 N fourteenparen  
 N fourteenperiod  
 N fourthai  
 N fourthtonechinese  
 N fparen  
 N fraction  
 N franc  
 N g  
 N gabengali  
 N gacute  
 N gadeva  
 N gafarabic  
 N gaffinalarabic  
 N gafinitialarabic  
 N gafmedialarabic  
 N gagujarati  
 N gagurmukhi  
 N gahiragana  
 N gakatakana  
 N gamma  
 N gammalatinsmall  
 N gammasuperior

N gangiacoptic  
 N gbopomofo  
 N gbreve  
 N gcaron  
 N gcedilla  
 N gcircle  
 N gcircumflex  
 N gcommaaccent  
 N gdot  
 N gdotaccent  
 N gecyrillic  
 N gehiragana  
 N gekatakana  
 N geometricallyequal  
 N gereshaccenthebrew  
 N gereshhebrew  
 N gereshmuqdamhebrew  
 N germandbls  
 N gershayimaccenthebrew  
 N gershayimhebrew  
 N getamark  
 N ghabengali  
 N ghadarmenian  
 N ghadeva  
 N ghagujarati  
 N ghagurmukhi  
 N ghainarabic  
 N ghainfinalarabic  
 N ghaininitialarabic  
 N ghainmedialarabic  
 N ghemiddlehookcyrillic  
 N ghestrokecyrillic  
 N gheupturncyrillic  
 N ghadeva  
 N ghagurmukhi  
 N ghook  
 N ghzsquare  
 N gihiragana  
 N gikatakana  
 N gimarmenian  
 N gimel  
 N gimeldagesh  
 N gimeldageshhebrew  
 N gimelhebrew

|                               |                           |
|-------------------------------|---------------------------|
| N gjecyrillic                 | N haabkhasiancyrillic     |
| N glottalinvertedstroke       | N haaltonearabic          |
| N glottalstop                 | N habengali               |
| N glottalstopinverted         | N hadescendercyrillic     |
| N glottalstopmod              | N hadeva                  |
| N glottalstopreversed         | N hagujarati              |
| N glottalstopreversedmod      | N hagurmukhi              |
| N glottalstopreversedsuperior | N haharabic               |
| N glottalstopstroke           | N hahfinalarabic          |
| N glottalstopstrokereversed   | N hahinitialarabic        |
| N gmacron                     | N hahiragana              |
| N gmonospace                  | N hahmedialarabic         |
| N gohiragana                  | N haitusquare             |
| N gokatakana                  | N hakatakana              |
| N gparen                      | N hakatakanahalfwidth     |
| N gpasquare                   | N halantgurmukhi          |
| N gradient                    | N hamzaarabic             |
| N grave                       | N hamzadammaarabic        |
| N gravebelowcmb               | N hamzadammatanarabic     |
| N gravecmb                    | N hamzafathaarabic        |
| N gravecomb                   | N hamzafathatanarabic     |
| N gravedeva                   | N hamzalowarabic          |
| N gravelowmod                 | N hamzalowkasraarabic     |
| N gravemonospace              | N hamzalowkasratanarabic  |
| N gravetonecmb                | N hamzasukunarabic        |
| N greater                     | N hangulfiller            |
| N greaterequal                | N hardsigncyrillic        |
| N greaterequalorless          | N harpoonleftbarbup       |
| N greatermonospace            | N harpoonrightbarbup      |
| N greaterorequivalent         | N hasquare                |
| N greaterorless               | N hatafpatah              |
| N greateroverequal            | N hatafpatah16            |
| N greatersmall                | N hatafpatah23            |
| N gscript                     | N hatafpatah2f            |
| N gstroke                     | N hatafpatahhebrew        |
| N guhiragana                  | N hatafpatahnarrowhebrew  |
| N guillemotleft               | N hatafpatahquarterhebrew |
| N guillemotright              | N hatafpatahwidehebrew    |
| N guilsinglleft               | N hatafqamats             |
| N guilsinglright              | N hatafqamats1b           |
| N gukatakana                  | N hatafqamats28           |
| N gurusquare                  | N hatafqamats34           |
| N gysquare                    | N hatafqamatshebrew       |
| N h                           | N hatafqamatsnarrowhebrew |

|                               |                           |
|-------------------------------|---------------------------|
| N hatafqamatsquarterhebrew    | N het                     |
| N hatafqamatswidehebrew       | N hethebrew               |
| N hatafsego1                  | N hhook                   |
| N hatafsego117                | N hhooksuperior           |
| N hatafsego124                | N hieuhacirclekorean      |
| N hatafsego130                | N hieuhaparenkorean       |
| N hatafsego1hebrew            | N hieuhcirclekorean       |
| N hatafsego1narrowhebrew      | N hieuhkorean             |
| N hatafsego1quarterhebrew     | N hieuhparenkorean        |
| N hatafsego1widehebrew        | N hihiragana              |
| N hbar                        | N hikatakana              |
| N hbopomofo                   | N hikatakanahalfwidth     |
| N hbrevebelow                 | N hiriq                   |
| N hcedilla                    | N hiriq14                 |
| N hcircle                     | N hiriq21                 |
| N hcircumflex                 | N hiriq2d                 |
| N hdieresis                   | N hiriqhebrew             |
| N hdotaccent                  | N hiriqnarrowhebrew       |
| N hdotbelow                   | N hiriqqarterhebrew       |
| N he                          | N hiriqwidehebrew         |
| N heart                       | N hlinebelow              |
| N heartsuitblack              | N hmonospace              |
| N heartsuitwhite              | N hoarmenian              |
| N hedagesh                    | N hohipthai               |
| N hedageshhebrew              | N hohiragana              |
| N hehalttonearabic            | N hokatakana              |
| N heharabic                   | N hokatakanahalfwidth     |
| N hehebrew                    | N holam                   |
| N hehfinalalttonearabic       | N holam19                 |
| N hehfinalalttwoarabic        | N holam26                 |
| N hehfinalarabic              | N holam32                 |
| N hehhamzaabovefinalarabic    | N holamhebrew             |
| N hehhamzaaboveisolatedarabic | N holamnarrowhebrew       |
| N hehinitialalttonearabic     | N holamquarterhebrew      |
| N hehinitialarabic            | N holamwidehebrew         |
| N hehiragana                  | N honokhukthai            |
| N hehmedialalttonearabic      | N hookabovecomb           |
| N hehmedialarabic             | N hookcmb                 |
| N heiseierasquare             | N hookpalatalizedbelowcmb |
| N hekatakana                  | N hookretroflexbelowcmb   |
| N hekatakanahalfwidth         | N hoonsquare              |
| N hekutaarusquare             | N horicoptic              |
| N henghook                    | N horizontalbar           |
| N herutusquare                | N horncmb                 |

|                                  |                             |
|----------------------------------|-----------------------------|
| N hotspings                      | N ideographichaveparen      |
| N house                          | N ideographichighcircle     |
| N hparen                         | N ideographiciterationmark  |
| N hsuperior                      | N ideographiclaborcircle    |
| N hturned                        | N ideographiclaborparen     |
| N huhiragana                     | N ideographicleftcircle     |
| N huitosquare                    | N ideographiclowcircle      |
| N hukatakana                     | N ideographicmedicinecircle |
| N hukatakanahalfwidth            | N ideographicmetalparen     |
| N hungarumlaut                   | N ideographicmoonparen      |
| N hungarumlautcmb                | N ideographicnameparen      |
| N hv                             | N ideographicperiod         |
| N hyphen                         | N ideographicprintcircle    |
| N hyphenmonospace                | N ideographicreachparen     |
| N hyphensmall                    | N ideographicrepresentparen |
| N hyphentwo                      | N ideographicresourceparen  |
| N i                              | N ideographicrightcircle    |
| N iacute                         | N ideographicsecretcircle   |
| N iacyrillic                     | N ideographicselfparen      |
| N ibengali                       | N ideographicsocietyparen   |
| N ibopomofo                      | N ideographicspace          |
| N ibreve                         | N ideographicspecialparen   |
| N icaron                         | N ideographicstockparen     |
| N icircle                        | N ideographicstudyparen     |
| N icircumflex                    | N ideographicsunparen       |
| N icyrillic                      | N ideographicsuperviseparen |
| N idblgrave                      | N ideographicwaterparen     |
| N ideographearthcircle           | N ideographicwoodparen      |
| N ideographfirecircle            | N ideographiczero           |
| N ideographicallianceparen       | N ideographmetalcircle      |
| N ideographiccallparen           | N ideographmooncircle       |
| N ideographiccentrecircle        | N ideographnamecircle       |
| N ideographicclose               | N ideographsuncircle        |
| N ideographiccomma               | N ideographwatercircle      |
| N ideographiccommaleft           | N ideographwoodcircle       |
| N ideographiccongratulationparen | N ideva                     |
| N ideographiccorrectcircle       | N idieresis                 |
| N ideographicearthparen          | N idieresisacute            |
| N ideographicenterpriseparen     | N idieresiscyrillic         |
| N ideographicexcellentcircle     | N idotbelow                 |
| N ideographicfestivalparen       | N iebrevecyrillic           |
| N ideographicfinancialcircle     | N iecyrillic                |
| N ideographicfinancialparen      | N ieungacirclekorean        |
| N ideographicfireparen           | N ieungaparenkorean         |

N ieungcirclekorean  
 N ieungkorean  
 N ieungparenkorean  
 N igrave  
 N igujarati  
 N igurmukhi  
 N ihiragana  
 N ihookabove  
 N iibengali  
 N iicyrillic  
 N iideva  
 N iigujarati  
 N iigurmukhi  
 N iimatragurmukhi  
 N iinvertedbreve  
 N iishortcyrillic  
 N iivowelsignbengali  
 N iivowelsigndeva  
 N iivowelsigngujarati  
 N ij  
 N ikatakana  
 N ikatakanahalfwidth  
 N ikorean  
 N ilde  
 N iluyhebrew  
 N imacron  
 N imacroncyrillic  
 N imageorapproximatelyequal  
 N imatragurmukhi  
 N imonospace  
 N increment  
 N infinity  
 N iniarmenian  
 N integral  
 N integralbottom  
 N integralbt  
 N integraltop  
 N integraltp  
 N intersection  
 N intisquare  
 N invbullet  
 N invcircle  
 N invsmileface  
 N iocyrlilic

N iogonek  
 N iota  
 N iodadieresis  
 N iodadieresisstonos  
 N iotalatin  
 N iotatonos  
 N iparen  
 N irigurmukhi  
 N ismallhiragana  
 N ismallkatakana  
 N ismallkatakanahalfwidth  
 N issharbengali  
 N istroke  
 N iterationhiragana  
 N iterationkatakana  
 N itilde  
 N itildebelow  
 N iubopomofo  
 N iucyrlilic  
 N ivowelsignbengali  
 N ivowelsigndeva  
 N ivowelsigngujarati  
 N izhitsacyrillic  
 N izhitsadblgravecyrillic  
 N j  
 N jaarmenian  
 N jabengali  
 N jadeva  
 N jagujarati  
 N jagurmukhi  
 N jbopomofo  
 N jcaron  
 N jcicle  
 N jccircumflex  
 N jcrossedtail  
 N jdotlessstroke  
 N jecyrlilic  
 N jeemarabic  
 N jeemfinalarabic  
 N jeeminitialarabic  
 N jeemmedialarabic  
 N jeharabic  
 N jehfinalarabic  
 N jhabengali

|                                |                                |
|--------------------------------|--------------------------------|
| N jhadeva                      | N katahiraprolongmarkhalfwidth |
| N jhagujarati                  | N kaverticalserokecyrillic     |
| N jhagurmukhi                  | N kbopomofo                    |
| N jheharmerian                 | N kcalsquare                   |
| N jis                          | N kcaron                       |
| N jmonospace                   | N kcedilla                     |
| N jpren                        | N kcircle                      |
| N jsuperior                    | N kcommaaccent                 |
| N k                            | N kdotbelow                    |
| N kabashkircyrillic            | N keharmerian                  |
| N kabengali                    | N kehiragana                   |
| N kacute                       | N kekatakana                   |
| N kacyrillic                   | N kekatakanahalfwidth          |
| N kadescendercyrillic          | N kenarmerian                  |
| N kadeva                       | N kesmallkatakana              |
| N kaf                          | N kgreenlandic                 |
| N kafarabic                    | N khabengali                   |
| N kafdagesh                    | N khacyrillic                  |
| N kafdageshhebrew              | N khadeva                      |
| N kaffinalarabic               | N khagujarati                  |
| N kafhebrew                    | N khagurmukhi                  |
| N kafinitialarabic             | N khaharabic                   |
| N kafmedialarabic              | N khahfinalarabic              |
| N kafrafehebrew                | N khahinitialarabic            |
| N kagujarati                   | N khahmedialarabic             |
| N kagurmukhi                   | N kheicoptic                   |
| N kahiragana                   | N khadeva                      |
| N kahookcyrillic               | N khagurmukhi                  |
| N kakatakana                   | N khieukhacirclekorean         |
| N kakatakanahalfwidth          | N khieukhaparenkorean          |
| N kappa                        | N khieukhcirclekorean          |
| N kappasymbolgreek             | N khieukhkorean                |
| N kapyeounmieumkorean          | N khieukhparenkorean           |
| N kapyeounphieuphorean         | N khokhaithai                  |
| N kapyeounpieupkorean          | N khokhonthai                  |
| N kapyeounssangpieupkorean     | N khokhuatthai                 |
| N karoriisquare                | N khokhwaithai                 |
| N kashidaautoarabic            | N khomutthai                   |
| N kashidaautosidebearingarabic | N khook                        |
| N kasmallkatakana              | N khorakhangthai               |
| N kasquare                     | N khzsquare                    |
| N kasraarabic                  | N kihiragana                   |
| N kasratanarabic               | N kikatakana                   |
| N kastrokecyrillic             | N kikatakanahalfwidth          |

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| N kiroguramusquare                | N lamalefhamzabelowfinalarabic    |
| N kiromeetorusquare               | N lamalefhamzabelowisolatedarabic |
| N kirosquare                      | N lamalefisolatedarabic           |
| N kiyeokacirclekorean             | N lamalefmaddaabovefinalarabic    |
| N kiyeokaparenkorean              | N lamalefmaddaaboveisolatedarabic |
| N kiyeokcirclekorean              | N lamarabic                       |
| N kiyeokkorean                    | N lambda                          |
| N kiyeokparenkorean               | N lambdastroke                    |
| N kiyeoksioskorean                | N lamed                           |
| N kjecyrillic                     | N lameddagesh                     |
| N klinebelow                      | N lameddageshhebrew               |
| N klsquare                        | N lamedhebrew                     |
| N kmcubedsquare                   | N lamedholam                      |
| N kmonospace                      | N lamedholamdagesh                |
| N kmsquaredsquare                 | N lamedholamdageshhebrew          |
| N kohiragana                      | N lamedholamhebrew                |
| N kohmsquare                      | N lamfinalarabic                  |
| N kokaithai                       | N lamhahinitialarabic             |
| N kokatakana                      | N laminitialarabic                |
| N kokatakanahalfwidth             | N lamjeeminitialarabic            |
| N kooposquare                     | N lamkhahinitialarabic            |
| N koppacyrillic                   | N lamlamhehisolatedarabic         |
| N koreanstandardsymbol            | N lammedialarabic                 |
| N koroniscmb                      | N lammeemhahinitialarabic         |
| N kparen                          | N lammeeminitialarabic            |
| N kpsquare                        | N lammeemjeeminitialarabic        |
| N ksicyrillic                     | N lammeemkhahinitialarabic        |
| N ktsquare                        | N largecircle                     |
| N kturned                         | N lbar                            |
| N kuhiragana                      | N lbelt                           |
| N kukatakana                      | N lbopomofo                       |
| N kukatakanahalfwidth             | N lcaron                          |
| N kvsquare                        | N lcedilla                        |
| N kwsquare                        | N lcircle                         |
| N l                               | N lcircumflexbelow                |
| N labengali                       | N lcommaaccent                    |
| N lacute                          | N ldot                            |
| N ladeva                          | N ldotaccent                      |
| N lagujarati                      | N ldotbelow                       |
| N lagurmukhi                      | N ldotbelowmacron                 |
| N lakkhangyaothai                 | N leftangleabovecmb               |
| N lamaleffinalarabic              | N lefttackbelowcmb                |
| N lamalefhamzaabovefinalarabic    | N less                            |
| N lamalefhamzaaboveisolatedarabic | N lessequal                       |

N lessequalorgreater  
 N lessmonospace  
 N lessorequivalent  
 N lessorgreater  
 N lessoverequal  
 N lesssmall  
 N lezh  
 N lfblock  
 N lhookretroflex  
 N lira  
 N liwnarmenian  
 N lj  
 N ljecyrillic  
 N lladeva  
 N llagujarati  
 N llinebelow  
 N llladeva  
 N llvocalicbengali  
 N llvocalicdeva  
 N llvocalicvowelsignbengali  
 N llvocalicvowelsigndeva  
 N lmiddletilde  
 N lmonospace  
 N lmsquare  
 N lochulathai  
 N logicaland  
 N logicalnot  
 N logicalnotreversed  
 N logicalor  
 N lolingthai  
 N longs  
 N lowlinecenterline  
 N lowlinecmb  
 N lowlinedashed  
 N lozenge  
 N lparen  
 N lslash  
 N lsquare  
 N ltshade  
 N luthai  
 N lvocalicbengali  
 N lvocalicdeva  
 N lvocalicvowelsignbengali  
 N lvocalicvowelsigndeva

N lxsquare  
 N m  
 N mabengali  
 N macron  
 N macronbelowcmb  
 N macroncmb  
 N macronlowmod  
 N macronmonospace  
 N macute  
 N madeva  
 N magujarati  
 N magurmukhi  
 N mahapakhhebrew  
 N mahapakhlefthebrew  
 N mahiragana  
 N maichattawathai  
 N maiekthai  
 N maihanakatthai  
 N maitaikhuthai  
 N maithothai  
 N maitrithai  
 N maiyamokthai  
 N makatakana  
 N makatakanahalfwidth  
 N male  
 N mansyonsquare  
 N maqafhebrew  
 N mars  
 N masoracirclehebrew  
 N masquare  
 N mbopomofo  
 N mbsquare  
 N mcircle  
 N mcubedsquare  
 N mdotaccent  
 N mdotbelow  
 N meemarabic  
 N meemfinalarabic  
 N meeminitialarabic  
 N meemmedialarabic  
 N meemmeeminitialarabic  
 N meemmeemisolatedarabic  
 N meetorusquare  
 N mehiragana



|                              |                       |
|------------------------------|-----------------------|
| N meizierasquare             | N molsquare           |
| N mekatakana                 | N momathai            |
| N mekatakanahalfwidth        | N moverssquare        |
| N mem                        | N moverssquaredsquare |
| N memdagesh                  | N mparen              |
| N memdageshhebrew            | N mpasquare           |
| N memhebrew                  | N mssquare            |
| N menarmenian                | N mturned             |
| N merkhahebrew               | N mu                  |
| N merkhakefulahebrew         | N mul                 |
| N merkhakefulalefthebrew     | N muasquare           |
| N merkhalefthebrew           | N muchgreater         |
| N mhook                      | N muchless            |
| N mhzsquare                  | N mufsquare           |
| N middledotkatakanahalfwidth | N mugreek             |
| N middot                     | N mugsquare           |
| N mieumacirclekorean         | N muhiragana          |
| N mieumaparenkorean          | N mukatakana          |
| N mieumcirclekorean          | N mukatakanahalfwidth |
| N mieumkorean                | N mulsquare           |
| N mieumpansioskorean         | N multiply            |
| N mieumparenkorean           | N mumsquare           |
| N mieumpieupkorean           | N munahhebrew         |
| N mieumsioskorean            | N munahlefthebrew     |
| N mihiragana                 | N musicalnote         |
| N mikatakana                 | N musicalnotedbl      |
| N mikatakanahalfwidth        | N musicflatsign       |
| N minus                      | N musicsharpsign      |
| N minusbelowcmb              | N mussquare           |
| N minuscircle                | N muvsquare           |
| N minusmod                   | N muwsquare           |
| N minusplus                  | N mvmegasquare        |
| N minute                     | N mvsquare            |
| N miribaarusquare            | N mwmegasquare        |
| N mirisquare                 | N mwsquare            |
| N mlonglegturned             | N n                   |
| N mlsquare                   | N nabengali           |
| N mmcubedsquare              | N nabla               |
| N mmonospace                 | N nacute              |
| N mmsquaredsquare            | N nadeva              |
| N mohiragana                 | N nagujarati          |
| N mohmsquare                 | N nagurmukhi          |
| N mokatakana                 | N nahiragana          |
| N mokatakanahalfwidth        | N nakatakana          |

|                              |                          |
|------------------------------|--------------------------|
| N nakatakanahalfwidth        | N ninedeva               |
| N napostrophe                | N ninegujarati           |
| N nasquare                   | N ninegurmukhi           |
| N nbopomofo                  | N ninehackarabic         |
| N nbspace                    | N ninehangzhou           |
| N ncaron                     | N nineideographicparen   |
| N ncedilla                   | N nineinferior           |
| N ncircle                    | N ninemonospace          |
| N ncircumflexbelow           | N nineparen              |
| N ncommaaccent               | N nineperiod             |
| N ndotaccent                 | N ninepersian            |
| N ndotbelow                  | N nineroman              |
| N nehiragana                 | N ninesuperior           |
| N nekatakana                 | N nineteencircle         |
| N nekatakanahalfwidth        | N nineteenparen          |
| N newsheqelsign              | N nineteenperiod         |
| N nfsquare                   | N ninethai               |
| N ngabengali                 | N nj                     |
| N ngadeva                    | N njecyrillic            |
| N ngagujarati                | N nkatakana              |
| N ngagurmukhi                | N nkatakanahalfwidth     |
| N ngonguthai                 | N nlegrightlong          |
| N nhiragana                  | N nlinebelow             |
| N nhookleft                  | N nmonospace             |
| N nhookretroflex             | N nmssquare              |
| N nieunacirclekorean         | N nnabengali             |
| N nieunaparenkorean          | N nnadeva                |
| N nieuncieuckorean           | N nnagujarati            |
| N nieuncirclekorean          | N nnagurmukhi            |
| N nieunhieuhkorean           | N nnnadeva               |
| N nieunkorean                | N nohiragana             |
| N nieunpansioskorean         | N nokatakana             |
| N nieunparenkorean           | N nokatakanahalfwidth    |
| N nieunsioskorean            | N nonbreakingspace       |
| N nieuntikeutkorean          | N nonenthai              |
| N nihiragana                 | N nonuthai               |
| N nikatakana                 | N noonarabic             |
| N nikatakanahalfwidth        | N noonfinalarabic        |
| N nikhahitthai               | N noonghunnaarabic       |
| N nine                       | N noonghunnafinalarabic  |
| N ninearabic                 | N noonhehinitialarabic   |
| N ninebengali                | N nooninitialarabic      |
| N ninecircle                 | N noonjeeminitialarabic  |
| N ninecircleinversesansserif | N noonjeemisolatedarabic |

|                          |                            |
|--------------------------|----------------------------|
| N noonmedialarabic       | N nyabengali               |
| N noonmeeminitialarabic  | N nyadeva                  |
| N noonmeemisolatedarabic | N nyagujarati              |
| N noonnoonfinalarabic    | N nyagurmukhi              |
| N notcontains            | N o                        |
| N notelement             | N oacute                   |
| N notelementof           | N oangthai                 |
| N notequal               | N obarred                  |
| N notgreater             | N obarredcyrillic          |
| N notgreaternorequal     | N obarreddieresiscyrillic  |
| N notgreaternorless      | N obengali                 |
| N notidentical           | N obopomofo                |
| N notless                | N obreve                   |
| N notlessnorequal        | N ocandradeva              |
| N notparallel            | N ocandragujarati          |
| N notprecedes            | N ocandravowelsigndeva     |
| N notsubset              | N ocandravowelsigngujarati |
| N notsucceeds            | N ocaron                   |
| N notsuperset            | N ocircle                  |
| N nowarmenian            | N ocircumflex              |
| N nparen                 | N ocircumflexacute         |
| N nssquare               | N ocircumflexdotbelow      |
| N nsuperior              | N ocircumflexgrave         |
| N ntilde                 | N ocircumflexhookabove     |
| N nu                     | N ocircumflextilde         |
| N nuhiragana             | N ocyrillic                |
| N nukatakana             | N odblacute                |
| N nukatakanahalfwidth    | N odblgrave                |
| N nuktabengali           | N odeva                    |
| N nuktadeva              | N odieresis                |
| N nuktagujarati          | N odieresiscyrillic        |
| N nuktagurmukhi          | N odotbelow                |
| N numbersign             | N oe                       |
| N numbersignmonospace    | N oekorean                 |
| N numbersignsmall        | N ogonek                   |
| N numeralsigngreek       | N ogonekcmb                |
| N numeralsignlowergreek  | N ograve                   |
| N numero                 | N ogujarati                |
| N nun                    | N oharmenian               |
| N nundagesh              | N ohiragana                |
| N nundageshhebrew        | N ohookabove               |
| N nunhebrew              | N ohorn                    |
| N nvsquare               | N ohornacute               |
| N nwsquare               | N ohorndotbelow            |

|                             |                           |
|-----------------------------|---------------------------|
| N ohorngrave                | N onepersian              |
| N ohornhookabove            | N onequarter              |
| N ohorntilde                | N oneroman                |
| N ohungarumlaut             | N onesuperior             |
| N oi                        | N onethai                 |
| N oinvertedbreve            | N onethird                |
| N okatakana                 | N oogonek                 |
| N okatakanahalfwidth        | N oogonekmacron           |
| N okorean                   | N oogurmukhi              |
| N olehebrew                 | N oomatragurmukhi         |
| N omacron                   | N oopen                   |
| N omacronacute              | N oparen                  |
| N omacrongrave              | N openbullet              |
| N omdeva                    | N option                  |
| N omega                     | N ordfeminine             |
| N omegal                    | N ordmasculine            |
| N omegacyrillic             | N orthogonal              |
| N omegalatinclosed          | N oshortdeva              |
| N omegaroundcyrillic        | N oshortvowelsigndeva     |
| N omegatitlocyrillic        | N oslash                  |
| N omegatonos                | N oslashacute             |
| N omgujarati                | N osmallhiragana          |
| N omicron                   | N osmallkatakana          |
| N omicrontonos              | N osmallkatakanahalfwidth |
| N omonospace                | N ostrokeacute            |
| N one                       | N otcyrillic              |
| N onearabic                 | N otilde                  |
| N onebengali                | N otildeacute             |
| N onecircle                 | N otildedieresis          |
| N onecircleinversesansserif | N oubopomofo              |
| N onedeva                   | N overline                |
| N onedotenleader            | N overlinecenterline      |
| N oneeighth                 | N overlinecmb             |
| N onegujarati               | N overlinedashed          |
| N onegurmukhi               | N overlinedblwavy         |
| N onehackarabic             | N overlinewavy            |
| N onehalf                   | N overscore               |
| N onehangzhou               | N ovowelsignbengali       |
| N oneideographicparen       | N ovowelsigndeva          |
| N oneinferior               | N ovowelsigngujarati      |
| N onemonospace              | N p                       |
| N onenumeratorbengali       | N paampssquare            |
| N oneparen                  | N paasentosquare          |
| N oneperiod                 | N pabengali               |

|                             |                        |
|-----------------------------|------------------------|
| N pacute                    | N pe                   |
| N padeva                    | N pecyrillic           |
| N pagedown                  | N pedagesh             |
| N pageup                    | N pedageshhebrew       |
| N pagujarati                | N peezisquare          |
| N pagurmukhi                | N pefinaldageshhebrew  |
| N pahiragana                | N peharabic            |
| N paiyannoithai             | N peharmenian          |
| N pakatakana                | N pehebrew             |
| N palatalizationcyrilliccmb | N pehfinalarabic       |
| N palochkacyrillic          | N pehinitialarabic     |
| N pansioskorean             | N pehiragana           |
| N paragraph                 | N pehmedialarabic      |
| N parallel                  | N pekatakana           |
| N parenleft                 | N pemiddlehookcyrillic |
| N parenleftalttonearabic    | N perafehebrew         |
| N parenleftinferior         | N percent              |
| N parenleftmonospace        | N percentarabic        |
| N parenleftsmall            | N percentmonospace     |
| N parenleftsuperior         | N percentsmall         |
| N parenleftvertical         | N period               |
| N parenright                | N periodarmenian       |
| N parenrightalttonearabic   | N periodcentered       |
| N parenrightinferior        | N periodhalfwidth      |
| N parenrightmonospace       | N periodmonospace      |
| N parenrightsmall           | N periodsmall          |
| N parenrightsuperior        | N perispomenigreekcmb  |
| N parenrightvertical        | N perpendicular        |
| N partialdiff               | N perthousand          |
| N paseqhebrew               | N peseta               |
| N pashtahebrew              | N pfsquare             |
| N pasquare                  | N phabengali           |
| N patah                     | N phadeva              |
| N patah1l                   | N phagujarati          |
| N patah1d                   | N phagurmukhi          |
| N patah2a                   | N phi                  |
| N patahhebrew               | N phil                 |
| N patahnarrowhebrew         | N phieuphacirclekorean |
| N patahquarterhebrew        | N phieuphparenkorean   |
| N patahwidehebrew           | N phieuphcirclekorean  |
| N pazerhebrew               | N phieuphkorean        |
| N pbopomofo                 | N phieuphparenkorean   |
| N pcircle                   | N philatin             |
| N pdotaccent                | N phinthuthai          |

|                           |                            |
|---------------------------|----------------------------|
| N phisymbolgreek          | N primemod                 |
| N phook                   | N primereversed            |
| N phophanthai             | N product                  |
| N phophungthai            | N projective               |
| N phosamphaothai          | N prolongedkana            |
| N pi                      | N propellor                |
| N pieupacirclekorean      | N propersubset             |
| N pieupaparenkorean       | N propersuperset           |
| N pieupcieuckorean        | N proportion               |
| N pieupcirclekorean       | N proportional             |
| N pieupkiyeokkorean       | N psi                      |
| N pieupkorean             | N psicyrillic              |
| N pieupparenkorean        | N psilipneumatacyrilliccmb |
| N pieupsioskiyeokkorean   | N pssquare                 |
| N pieupsioskorean         | N puhiragana               |
| N pieupsiosstikeutkorean  | N pukatakana               |
| N pieupthieuthkorean      | N pvsquare                 |
| N pieuptikeutkorean       | N pwsquare                 |
| N pihiragana              | N q                        |
| N pikatakana              | N qadeva                   |
| N pisymbolgreek           | N qadmahebrew              |
| N piwrarmenian            | N qafarabic                |
| N plus                    | N qaffinalarabic           |
| N plusbelowcmb            | N qafinitaliarabic         |
| N pluscircle              | N qafmedialarabic          |
| N plusminus               | N qamats                   |
| N plusmod                 | N qamats10                 |
| N plusmonospace           | N qamats1a                 |
| N plussmall               | N qamats1c                 |
| N plussuperior            | N qamats27                 |
| N pmonospace              | N qamats29                 |
| N pmsquare                | N qamats33                 |
| N pohiragana              | N qamatsde                 |
| N pointingindexdownwhite  | N qamatshebrew             |
| N pointingindexleftwhite  | N qamatsnarrowhebrew       |
| N pointingindexrightwhite | N qamatsqatanhebrew        |
| N pointingindexupwhite    | N qamatsqatannarrowhebrew  |
| N pokatakana              | N qamatsqatanquarterhebrew |
| N poplathai               | N qamatsqatanwidehebrew    |
| N postalmark              | N qamatsquarterhebrew      |
| N postalmarkface          | N qamatswidehebrew         |
| N pparen                  | N qarneyparahebrew         |
| N precedes                | N qbopomofo                |
| N prescription            | N qcircle                  |

|                       |                           |
|-----------------------|---------------------------|
| N qhook               | N quotedblleft            |
| N qmonospace          | N quotedblmonospace       |
| N qof                 | N quotedblprime           |
| N qofdagesh           | N quotedblprimereversed   |
| N qofdageshhebrew     | N quotedblright           |
| N qofhatafpatah       | N quoteleft               |
| N qofhatafpatahhebrew | N quoteleftreversed       |
| N qofhatafsegol       | N quotereversed           |
| N qofhatafsegolhebrew | N quoteright              |
| N qofhebrew           | N quoterightn             |
| N qofhiriq            | N quotesinglbase          |
| N qofhiriqhebrew      | N quotesingle             |
| N qofholam            | N quotesinglemonospace    |
| N qofholamhebrew      | N r                       |
| N qofpatah            | N raarmenian              |
| N qofpatahhebrew      | N rabengali               |
| N qofqamats           | N racute                  |
| N qofqamatshebrew     | N radeva                  |
| N qofqubuts           | N radical                 |
| N qofqubutshebrew     | N radoverssquare          |
| N qofsegol            | N radoverssquaresquare    |
| N qofsegolhebrew      | N radsquare               |
| N qofsheva            | N rafe                    |
| N qofshevahebrew      | N rafehebrew              |
| N qoftsere            | N ragujarati              |
| N qoftserehebrew      | N ragurmukhi              |
| N qparen              | N rahiragana              |
| N quarternote         | N rakatakana              |
| N qubuts              | N rakatakanahalfwidth     |
| N qubuts18            | N ralowerdiagonalbengali  |
| N qubuts25            | N ramiddlediagonalbengali |
| N qubuts31            | N ramshorn                |
| N qubutshebrew        | N ratio                   |
| N qubutsnarrowhebrew  | N rbopomofo               |
| N qubutsquarterhebrew | N rcaron                  |
| N qubutswidehebrew    | N rcedilla                |
| N question            | N rcircle                 |
| N questionarabic      | N rcommaaccent            |
| N questionarmenian    | N rdblgrave               |
| N questiondown        | N rdotaccent              |
| N questiongreek       | N rdotbelow               |
| N questionmonospace   | N rdotbelowmacron         |
| N quotedbl            | N referencemark           |
| N quotedblbase        | N reflexsubset            |

|                        |                          |
|------------------------|--------------------------|
| N reflexsuperset       | N rhosymbolgreek         |
| N registered           | N rhotichookmod          |
| N reharabic            | N rieulacirclekorean     |
| N reharmenian          | N rieulaparenkorean      |
| N rehfinalarabic       | N rieulcirclekorean      |
| N rehiragana           | N rieulhieuhkorean       |
| N rehyehaleflamarabic  | N rieulkiyeokkorean      |
| N rekatakana           | N rieulkiyeoksioskorean  |
| N rekatakanahalfwidth  | N rieulkkorean           |
| N resh                 | N rieulmieumkorean       |
| N reshdageshhebrew     | N rieulpansioskorean     |
| N reshhatafpatah       | N rieulparenkorean       |
| N reshhatafpatahhebrew | N rieulphieuphkorean     |
| N reshhatafsegol       | N rieulpieupkorean       |
| N reshhatafsegolhebrew | N rieulpieupsioskorean   |
| N reshhebrew           | N rieulsioskorean        |
| N reshhiriq            | N rieulthieuthkorean     |
| N reshhiriqhebrew      | N rieultikeutkorean      |
| N reshholam            | N rieulyeorinhieuhkorean |
| N reshholamhebrew      | N rightangle             |
| N reshpatah            | N righttackbelowcmb      |
| N reshpatahhebrew      | N righttriangle          |
| N reshqamats           | N rihiragana             |
| N reshqamatshebrew     | N rikatakana             |
| N reshqubuts           | N rikatakanahalfwidth    |
| N reshqubutshebrew     | N ring                   |
| N reshsegol            | N ringbelowcmb           |
| N reshsegolhebrew      | N ringcmb                |
| N reshsheva            | N ringhalfleft           |
| N reshshevahebrew      | N ringhalfleftarmenian   |
| N reshtsere            | N ringhalfleftbelowcmb   |
| N reshtserehebrew      | N ringhalfleftcentered   |
| N reversedtilde        | N ringhalfright          |
| N reviahebrew          | N ringhalfrightbelowcmb  |
| N reviamugrashhebrew   | N ringhalfrightcentered  |
| N revlogicalnot        | N rinvertedbreve         |
| N rfishhook            | N rittorusquare          |
| N rfishhookreversed    | N rlinebelow             |
| N rhabengali           | N rlongleg               |
| N rhadeva              | N rlonglegturned         |
| N rho                  | N rmonospace             |
| N rhook                | N rohiragana             |
| N rhookturned          | N rokatakana             |
| N rhookturnedsuperior  | N rokatakanahalfwidth    |



|                                   |                       |
|-----------------------------------|-----------------------|
| N roruathai                       | N samekhdagesh        |
| N rparen                          | N samekhdageshhebrew  |
| N rrabengali                      | N samekhhebrew        |
| N rradeva                         | N saraaathai          |
| N rragurmukhi                     | N saraaethai          |
| N rreharabic                      | N saraaimaimalaithai  |
| N rrehfinalarabic                 | N saraaimaimuanthai   |
| N rr vocalic bengali              | N saraamthai          |
| N rr vocalic deva                 | N saraathai           |
| N rr vocalic gujarati             | N saraethai           |
| N rr vocalic vowelsign bengali    | N saraiithai          |
| N rr vocalic vowelsign deva       | N saraiithai          |
| N rr vocalic vowelsign gujarati   | N saraothai           |
| N rtblock                         | N sarauethai          |
| N rturned                         | N sarauethai          |
| N rturnedsuperior                 | N sarauthai           |
| N ruhiragana                      | N sarauuthai          |
| N rukatakana                      | N sbopomofo           |
| N rukatakanahalfwidth             | N scaron              |
| N rupeemark bengali               | N scarondotaccent     |
| N rupeesign bengali               | N scedilla            |
| N ruthai                          | N schwa               |
| N rvocalic bengali                | N schwacyrillic       |
| N rvocalic deva                   | N schwadiesiscyrillic |
| N rvocalic gujarati               | N schwahook           |
| N rvocalic vowelsign bengali      | N scircle             |
| N rvocalic vowelsign deva         | N scircumflex         |
| N rvocalic vowelsign gujarati     | N scommaaccent        |
| N s                               | N sdotaccent          |
| N sabengali                       | N sdotbelow           |
| N sacute                          | N sdotbelowdotaccent  |
| N sacutedotaccent                 | N seagullbelowcmb     |
| N sadarabic                       | N second              |
| N sadeva                          | N secondtonechinese   |
| N sadfinalarabic                  | N section             |
| N sadinitialarabic                | N seenarabic          |
| N sadmedialarabic                 | N seenfinalarabic     |
| N sagujarati                      | N seeninitialarabic   |
| N sagurmukhi                      | N seenmedialarabic    |
| N sahiragana                      | N segol               |
| N sakatakana                      | N segol13             |
| N sakatakanahalfwidth             | N segol1f             |
| N sallallahoualayhewasallamarabic | N segol2c             |
| N samekh                          | N segolhebrew         |

N segolnarrowhebrew  
 N segolquarterhebrew  
 N segoltahebrew  
 N segolwidehebrew  
 N seharmenian  
 N sehiragana  
 N sekatakana  
 N sekatakanahalfwidth  
 N semicolon  
 N semicolonarabic  
 N semicolonmonospace  
 N semicolonsmall  
 N semivoicedmarkkana  
 N semivoicedmarkkanahalfwidth  
 N sentisquare  
 N sentosquare  
 N seven  
 N sevenarabic  
 N sevenbengali  
 N sevencircle  
 N sevencircleinversesansserif  
 N sevendeve  
 N seveneighths  
 N sevengujarati  
 N sevengurmukhi  
 N sevenhackarabic  
 N sevenhangzhou  
 N sevenideographicparen  
 N seveninferior  
 N sevenmonospace  
 N sevenparen  
 N sevenperiod  
 N sevenpersian  
 N sevenroman  
 N sevensuperior  
 N seventeencircle  
 N seventeenparen  
 N seventeenperiod  
 N seventhai  
 N sfthyphen  
 N shaarmenian  
 N shabengali  
 N shacyrillic  
 N shaddaarabic

N shaddadammaarabic  
 N shaddadammatanarabic  
 N shaddafathaarabic  
 N shaddafathatanarabic  
 N shaddakasraarabic  
 N shaddakasratanarabic  
 N shade  
 N shadedark  
 N shadelight  
 N shademedium  
 N shadeva  
 N shagujarati  
 N shagurmukhi  
 N shalshethebrew  
 N shbopomofo  
 N shchacyrillic  
 N sheenarabic  
 N sheenfinalarabic  
 N sheeninitialarabic  
 N sheenmedialarabic  
 N sheicoptic  
 N sheqel  
 N sheqelhebrew  
 N sheva  
 N sheva15  
 N sheva15  
 N sheva22  
 N sheva2e  
 N shevahebrew  
 N shevanarrowhebrew  
 N shevaquarterhebrew  
 N shevawidehebrew  
 N shhacyrillic  
 N shimacoptic  
 N shin  
 N shindagesh  
 N shindageshhebrew  
 N shindageshshindot  
 N shindageshshindothebrew  
 N shindageshsindot  
 N shindageshsindothebrew  
 N shindothebrew  
 N shinhebrew  
 N shinshindot

|                             |                                     |
|-----------------------------|-------------------------------------|
| N shinshindothewbrew        | N sixteencurrencydenominatorbengali |
| N shinsindot                | N sixteenparen                      |
| N shinsindothewbrew         | N sixteenperiod                     |
| N shook                     | N sixthai                           |
| N sigma                     | N slash                             |
| N sigma1                    | N slashmonospace                    |
| N sigmafinal                | N slong                             |
| N sigmaunatesymbolgreek     | N slongdotaccent                    |
| N sihiragana                | N smileface                         |
| N sikatakana                | N smonospace                        |
| N sikatakanahalfwidth       | N sofpassuqhebrew                   |
| N siluqhebrew               | N softthyphen                       |
| N siluqlfthebrew            | N softsigncyrillic                  |
| N similar                   | N sohiragana                        |
| N sindothewbrew             | N sokatakana                        |
| N siosacirclekorean         | N sokatakanahalfwidth               |
| N siosaparenkorean          | N soliduslongoverlaycmb             |
| N sioscieuckorean           | N solidusshortoverlaycmb            |
| N sioscirclekorean          | N sorusithai                        |
| N sioskiyeokkorean          | N osalathai                         |
| N sioskorean                | N sosothai                          |
| N siosnieunkorean           | N sosuathai                         |
| N siosparenkorean           | N space                             |
| N siospieupkorean           | N spacehackarabic                   |
| N siostikeutkorean          | N spade                             |
| N six                       | N spadessuitblack                   |
| N sixarabic                 | N spadessuitwhite                   |
| N sixbengali                | N sparen                            |
| N sixcircle                 | N squarebelowcmb                    |
| N sixcircleinversesansserif | N squarecc                          |
| N sixdeva                   | N squarecm                          |
| N sixgujarati               | N squarediagonalcrosshatchfill      |
| N sixgurmukhi               | N squarehorizontalfill              |
| N sixhackarabic             | N squarekg                          |
| N sixhangzhou               | N squarekm                          |
| N sixideographicparen       | N squarekmcapital                   |
| N sixinferior               | N squareln                          |
| N sixmonospace              | N squarelog                         |
| N sixparen                  | N squaremg                          |
| N sixperiod                 | N squaremil                         |
| N sixpersian                | N squaremm                          |
| N sixroman                  | N squaremsquared                    |
| N sixsuperior               | N squareorthogonalcrosshatchfill    |
| N sixteencircle             | N squareupperlefttolowerrightfill   |

|                                   |                         |
|-----------------------------------|-------------------------|
| N squareupperrighttolowerleftfill | N tahinitialarabic      |
| N squareverticalfill              | N tahiragana            |
| N squarewhitewithsmallblack       | N tahmedialarabic       |
| N srsquare                        | N taisyouerasquare      |
| N ssabengali                      | N takatakana            |
| N ssadeva                         | N takatakanahalfwidth   |
| N ssagujarati                     | N tatweelarabic         |
| N ssangcieuckorean                | N tau                   |
| N ssanghieuhkorean                | N tav                   |
| N ssangieungkorean                | N tavadages             |
| N ssangkiyeokkorean               | N tavadagesh            |
| N ssangnieunkorean                | N tavadageshhebrew      |
| N ssangpieupkorean                | N tavhebrew             |
| N ssangsioskorean                 | N tbar                  |
| N ssangtikeutkorean               | N tbopomofo             |
| N sterling                        | N tcaron                |
| N sterlingmonospace               | N tccurl                |
| N strokelongoverlaycmb            | N tcedilla              |
| N strokeshortoverlaycmb           | N tccheharabic          |
| N subset                          | N tcchfinalarabic       |
| N subsetnotequal                  | N tcchinitialarabic     |
| N subsetorequal                   | N tcchmedialarabic      |
| N succeeds                        | N tcchmeeminitialarabic |
| N suchthat                        | N tcircle               |
| N suhiragana                      | N tcircumflexbelow      |
| N sukatakana                      | N tcommaaccent          |
| N sukatakanahalfwidth             | N tdieresis             |
| N sukunarabic                     | N tdotaccent            |
| N summation                       | N tdotbelow             |
| N sun                             | N tecyrillic            |
| N superset                        | N tedescendercyrillic   |
| N supersetnotequal                | N teharabic             |
| N supersetorequal                 | N tehfinalarabic        |
| N svsquare                        | N tehhahinitialarabic   |
| N syouwaerasquare                 | N tehhahisolatedarabic  |
| N t                               | N tehinitialarabic      |
| N tabengali                       | N tehiragana            |
| N tackdown                        | N tehjeeminitialarabic  |
| N tackleft                        | N tehjeemisolatedarabic |
| N tadeva                          | N tehmarbutaarabic      |
| N tagujarati                      | N tehmarbutafinalarabic |
| N tagurmukhi                      | N tehmedialarabic       |
| N taharabic                       | N tehmeeminitialarabic  |
| N tahfinalarabic                  | N tehmeemisolatedarabic |

|                        |                               |
|------------------------|-------------------------------|
| N tehnoonfinalarabic   | N thonangmonthothai           |
| N tekatakana           | N thook                       |
| N tekatakanahalfwidth  | N thophuthaothai              |
| N telephone            | N thorn                       |
| N telephoneblack       | N thothahanthai               |
| N telishagedolahebrew  | N thothanthai                 |
| N telishaqetanahebrew  | N thothongthai                |
| N tencircle            | N thothungthai                |
| N tenideographicparen  | N thousandcyrillic            |
| N tenparen             | N thousandsseparatorarabic    |
| N tenperiod            | N thousandsseparatorpersian   |
| N tenroman             | N three                       |
| N tesh                 | N threearabic                 |
| N tet                  | N threebengali                |
| N tetdagesh            | N threecircle                 |
| N tetdageshhebrew      | N threecircleinversesansserif |
| N tethebrew            | N threedeva                   |
| N tetsecyrillic        | N threeeighths                |
| N tevirhebrew          | N threegujarati               |
| N tevirlefthebrew      | N threegurmukhi               |
| N thabengali           | N threehackarabic             |
| N thadeva              | N threehangzhou               |
| N thagujarati          | N threeideographicparen       |
| N thagurmukhi          | N threeinferior               |
| N thalarabic           | N threemonospace              |
| N thalfinalarabic      | N threenumeratorbengali       |
| N thanthakhatthai      | N threeparen                  |
| N theharabic           | N threeperiod                 |
| N thehfinalarabic      | N threepersian                |
| N theinitialarabic     | N threequarters               |
| N themedialarabic      | N threeeroman                 |
| N thereexists          | N threesuperior               |
| N therefore            | N threethai                   |
| N theta                | N thzsquare                   |
| N theta1               | N tihiragana                  |
| N thetasymbolgreek     | N tikatakana                  |
| N thieuthacirclekorean | N tikatakanahalfwidth         |
| N thieuthaparenkorean  | N tikeutacirclekorean         |
| N thieuthcirclekorean  | N tikeutaparenkorean          |
| N thieuthkorean        | N tikeutcirclekorean          |
| N thieuthparenkorean   | N tikeutkorean                |
| N thirteencircle       | N tikeutparenkorean           |
| N thirteenparen        | N tilde                       |
| N thirteenperiod       | N tildebelowcmb               |

|                                     |                            |
|-------------------------------------|----------------------------|
| N tildecmb                          | N ts                       |
| N tildecomb                         | N tsadi                    |
| N tildedoublecmb                    | N tsadidagesh              |
| N tildeoperator                     | N tsadidageshhebrew        |
| N tildeoverlaycmb                   | N tsadihebrew              |
| N tildeverticalcmb                  | N tsecyrillic              |
| N timescircle                       | N tsere                    |
| N tipehahebrew                      | N tsere12                  |
| N tipehalefthebrew                  | N tsere1e                  |
| N tippigurmukhi                     | N tsere2b                  |
| N titlocyrilliccmb                  | N tserehebrew              |
| N tiwnarmenian                      | N tserenarrowhebrew        |
| N tlinebelow                        | N tserequarterhebrew       |
| N tmonospace                        | N tserewidehebrew          |
| N toarmenian                        | N tshcyrillic              |
| N tohiragana                        | N ttabengali               |
| N tokatakana                        | N ttadeva                  |
| N tokatakanahalfwidth               | N ttagujarati              |
| N tonebarextrahighmod               | N ttagurmukhi              |
| N tonebarextralowmod                | N tteharabic               |
| N tonebarhighmod                    | N ttehfinalarabic          |
| N tonebarlowmod                     | N ttehinitialarabic        |
| N tonebarmidmod                     | N ttehmedialarabic         |
| N tonefive                          | N tthabengali              |
| N tonesix                           | N tthadeva                 |
| N tonetwo                           | N tthagujarati             |
| N tonos                             | N tthagurmukhi             |
| N tonsquare                         | N tturned                  |
| N topatakthai                       | N tuhiragana               |
| N tortoiseshellbracketleft          | N tukatakana               |
| N tortoiseshellbracketleftsmall     | N tukatakanahalfwidth      |
| N tortoiseshellbracketleftvertical  | N tusmallhiragana          |
| N tortoiseshellbracketright         | N tusmallkatakana          |
| N tortoiseshellbracketrightsmall    | N tusmallkatakanahalfwidth |
| N tortoiseshellbracketrightvertical | N twelvecircle             |
| N totaothai                         | N twelveparen              |
| N tpalatalhook                      | N twelveperiod             |
| N tparen                            | N twelveroman              |
| N trademark                         | N twentycircle             |
| N retroflexhook                     | N twentyparen              |
| N triagdn                           | N twentyperiod             |
| N triaglf                           | N two                      |
| N triagrt                           | N twoarabic                |
| N triagup                           | N twobengali               |

|                             |                         |
|-----------------------------|-------------------------|
| N twocircle                 | N udotbelow             |
| N twocircleinversesansserif | N ugrave                |
| N twodeva                   | N ugujarati             |
| N twodotenleader            | N ugurmukhi             |
| N twodotleader              | N uhiragana             |
| N twodotleadervertical      | N uhookabove            |
| N twogujarati               | N uhorn                 |
| N twogurmukhi               | N uhornacute            |
| N twohackarabic             | N uhorndotbelow         |
| N twohangzhou               | N uhorngrave            |
| N twoideographicparen       | N uhornhookabove        |
| N twoinferior               | N uhorntilde            |
| N twomonospace              | N uhungarumlaut         |
| N twonumeratorbengali       | N uhungarumlautcyrillic |
| N twoparen                  | N uinvertedbreve        |
| N twoperiod                 | N ukatakana             |
| N twopersian                | N ukatakanahalfwidth    |
| N tworoman                  | N ukcyrillic            |
| N twostroke                 | N ukorean               |
| N twosuperior               | N umacron               |
| N twothai                   | N umacroncyrillic       |
| N twothirds                 | N umacrondieresis       |
| N u                         | N umatragurmukhi        |
| N uacute                    | N umonospace            |
| N ubar                      | N underscore            |
| N ubengali                  | N underscoredbl         |
| N ubopomofo                 | N underscoremonospace   |
| N ubreve                    | N underscorevertical    |
| N ucaron                    | N underscorewavy        |
| N ucircle                   | N union                 |
| N ucircumflex               | N universal             |
| N ucircumflexbelow          | N uogonek               |
| N ucyrillic                 | N uparen                |
| N udattadeva                | N upblock               |
| N udblacute                 | N upperdothebrew        |
| N udblgrave                 | N upsilon               |
| N udeva                     | N upsilondieresis       |
| N udieresis                 | N upsilondieresis-tonos |
| N udieresisacute            | N upsilonlatin          |
| N udieresisbelow            | N upsilontonos          |
| N udieresiscaron            | N uptackbelowcmb        |
| N udieresis-cyrillic        | N uptackmod             |
| N udieresisgrave            | N uragurmukhi           |
| N udieresismacron           | N uring                 |

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| N ushortcyrillic          | N verticallineabovcmb      |
| N usmallhiragana          | N verticallinebelowcmb     |
| N usmallkatakana          | N verticallinelowmod       |
| N usmallkatakanahalfwidth | N verticallinemod          |
| N ustraightcyrillic       | N vewarmenian              |
| N ustraightstrokecyrillic | N vhook                    |
| N utilde                  | N vikatakana               |
| N tildeacute              | N viramabengali            |
| N tildebelow              | N viramadeva               |
| N uubengali               | N viramagujarati           |
| N uudeva                  | N visargabengali           |
| N uugujarati              | N visargadeva              |
| N uugurmukhi              | N visargagujarati          |
| N uumatragurmukhi         | N vmonospace               |
| N uuvowelsignbengali      | N voarmenian               |
| N uuvowelsigndeva         | N voicediterationhiragana  |
| N uuvowelsigngujarati     | N voicediterationkatakana  |
| N uvowelsignbengali       | N voicedmarkkana           |
| N uvowelsigndeva          | N voicedmarkkanahalfwidth  |
| N uvowelsigngujarati      | N vokatakana               |
| N v                       | N vparen                   |
| N vadeva                  | N vtilde                   |
| N vagujarati              | N vturned                  |
| N vagurmukhi              | N vuhiragana               |
| N vakatakana              | N vukatakana               |
| N vav                     | N w                        |
| N vavdagesh               | N wacute                   |
| N vavdagesh65             | N waekorean                |
| N vavdageshhebrew         | N wahiragana               |
| N vavhebrew               | N wakatakana               |
| N vavholam                | N wakatakanahalfwidth      |
| N vavholamhebrew          | N wakorean                 |
| N vavvavhebrew            | N wasmallhiragana          |
| N vavyodhebrew            | N wasmallkatakana          |
| N vcircle                 | N wattosquare              |
| N vdotbelow               | N wavedash                 |
| N vecyrillic              | N wavyunderscorevertical   |
| N veharabic               | N wawarabic                |
| N vehfinalarabic          | N wawfinalarabic           |
| N vehinitialarabic        | N wawhamzaabovearabic      |
| N vehmedialarabic         | N wawhamzaabovefinalarabic |
| N vekatakana              | N wbsquare                 |
| N venus                   | N wcircle                  |
| N verticalbar             | N wcircumflex              |



|   |                            |
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| N wdieresis                               | N wowaenthai               |
| N wdotaccent                              | N wparen                   |
| N wdotbelow                               | N wring                    |
| N wehiragana                              | N wsuperior                |
| N weierstrass                             | N wturned                  |
| N wekatakana                              | N wynn                     |
| N wekorean                                | N x                        |
| N weokorean                               | N xabovecmb                |
| N wgrave                                  | N xbopomofo                |
| N whitebullet                             | N xcircle                  |
| N whitecircle                             | N xdieresis                |
| N whitecircleinverse                      | N xdotaccent               |
| N whitecornerbracketleft                  | N xeharmenian              |
| N whitecornerbracketleftvertical          | N xi                       |
| N whitecornerbracketright                 | N xmonospace               |
| N whitecornerbracketrightvertical         | N xparen                   |
| N whitediamond                            | N xsuperior                |
| N whitediamondcontainingblacksmalldiamond | N y                        |
| N whitedownpointingsmalltriangle          | N yaadosquare              |
| N whitedownpointingtriangle               | N yabengali                |
| N whiteleftpointingsmalltriangle          | N yacute                   |
| N whiteleftpointingtriangle               | N yadeva                   |
| N whitelenticularbracketleft              | N yaekorean                |
| N whitelenticularbracketright             | N yagujarati               |
| N whiterightpointingsmalltriangle         | N yagurmukhi               |
| N whiterightpointingtriangle              | N yahiragana               |
| N whitesmallsquare                        | N yakatakana               |
| N whitesmilingface                        | N yakatakanahalfwidth      |
| N whitesquare                             | N yakorean                 |
| N whitestar                               | N yamakkanthai             |
| N whitetelephone                          | N yasmallhiragana          |
| N whitetortoiseshellbracketleft           | N yasmallkatakana          |
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| N whiteuppointingsmalltriangle            | N yatcyrillic              |
| N whiteuppointingtriangle                 | N ycircle                  |
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| N won                                     | N yehfinalarabic           |
| N wonmonospace                            | N yehhamzaabovearabic      |

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| N yehhamzaabovefinalarabic   | N yosmallkatakanahalfwidth  |
| N yehhamzaaboveinitialarabic | N yotgreek                  |
| N yehhamzaabovemedialarabic  | N yoyaekorean               |
| N yehinitialarabic           | N yoyakorean                |
| N yehmedialarabic            | N yoyakthai                 |
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| N yehmeemisolatedarabic      | N yparen                    |
| N yehnoonfinalarabic         | N ypogegrammeni             |
| N yehthreedotsbelowarabic    | N ypogegrammenigreekcmb     |
| N yekorean                   | N yr                        |
| N yen                        | N yring                     |
| N yenmonospace               | N ysuperior                 |
| N yeokorean                  | N ytilde                    |
| N yeorinhieuhkorean          | N yturned                   |
| N yerahbenyomohebrew         | N yuhiragana                |
| N yerahbenyomolefthebrew     | N yuikorean                 |
| N yericyrillic               | N yukatakana                |
| N yerudieresiscyrillic       | N yukatakanahalfwidth       |
| N yesieungkorean             | N yukorean                  |
| N yesieungpansioskorean      | N yusbigcyrillic            |
| N yesieungsioskorean         | N yusbigitotifiedcyrillic   |
| N yetivhebrew                | N yuslittlecyrillic         |
| N ygrave                     | N yuslittleiotifiedcyrillic |
| N yhook                      | N yusmallhiragana           |
| N yhookabove                 | N yusmallkatakana           |
| N yiarmenian                 | N yusmallkatakanahalfwidth  |
| N yicyrillic                 | N yuyekorean                |
| N yikorean                   | N yuyeokorean               |
| N yinyang                    | N yyabengali                |
| N yiwnarmenian               | N yyadeva                   |
| N ymonospace                 | N z                         |
| N yod                        | N zaarmenian                |
| N yoddagesh                  | N zacute                    |
| N yoddageshhebrew            | N zadeva                    |
| N yodhebrew                  | N zagurmukhi                |
| N yodyodhebrew               | N zaharabic                 |
| N yodyodpatahhebrew          | N zahfinalarabic            |
| N yohiragana                 | N zahinitialarabic          |
| N yoikorean                  | N zahiragana                |
| N yokatakana                 | N zahmedialarabic           |
| N yokatakanahalfwidth        | N zainarabic                |
| N yokorean                   | N zainfinalarabic           |
| N yosmallhiragana            | N zakatakana                |
| N yosmallkatakana            | N zaqefgadolhebrew          |

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 N zarqahebrew  
 N zayin  
 N zayindagesh  
 N zayindageshhebrew  
 N zayinhebrew  
 N zbopomofo  
 N zcaron  
 N zcircle  
 N zcircumflex  
 N zcurl  
 N zdot  
 N zdotaccent  
 N zdotbelow  
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 N zedescendercyrillic  
 N zedieresiscyrillic  
 N zehiragana  
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 N zeromonospace  
 N zeropersian  
 N zerosuperior  
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 N zhbopomofo  
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| N zlinebelow            |            |
| N zmonospace            |            |
| N zohiragana            |            |
| N zokatakana            |            |
| N zparen                |            |
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| <b>getdiscexpansion</b> | function   |
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   T unicode  
 T f\_f\_i  
   N mess  
   S name  
   T unicode  
 T f\_f\_l  
   N mess  
   S name  
   T unicode  
 T f\_i  
   N mess  
   S name  
   T unicode  
 T f\_j  
   S name  
   T unicode  
 T f\_k  
   S name  
   T unicode  
 T f\_l  
   N mess  
   S name  
   T unicode  
 T i\_j  
   N mess  
   S name  
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# functions (context)

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# graphics (context)

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## gzip (extra lua)

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| <b>check</b>          | function |
| <b>checksize</b>      | function |
| <b>clone</b>          | function |
| <b>copy</b>           | function |
| <b>immediatewrite</b> | function |
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| <b>package</b>   | function |
| <b>print</b>     | function |
| <b>scan</b>      | function |
| <b>serialize</b> | function |
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# interactions (context)

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F define

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F getidentity

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# interfaces (context)

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| F btxfirstofrange           | F cleanupplayers         |
| F btxflush                  | F clonefield             |
| F btxflushlistcombi         | F collectfloat           |
| F btxflushlistentry         | F collecthelp            |
| F btxflushmarked            | F colorcomponents        |
| F btxflushpages             | F columnsetcurrentcolumn |
| F btxfoundname              | F columnsetgoto          |
| F btxfoundtype              | F columnsetnoto          |
| F btxhandlecite             | F concatcommalist        |

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|---------------------------|------------------------------|
| F consultfloat            | F definefontcolorpalette     |
| F convertbtxdatasettoxml  | F definefontfamily           |
| F converteddimen          | F definefontfamilypreset     |
| F convertmpstopdf         | F definefontfeature          |
| F copyboxfromcache        | F definefontsolution         |
| F copyposition            | F definehyphenationfeatures  |
| F cos                     | F defineinsertion            |
| F cosd                    | F defineintermediatecolor    |
| F countervalue            | F definelabels               |
| F counttwopassdata        | F definelanguage             |
| F currentcomponent        | F definelinefiller           |
| F currentdate             | F definelinkedlist           |
| F currentdesignsize       | F definemarking              |
| F currentenvironment      | F definemetafont             |
| F currentfontinstancespec | F definemultitonecolorglobal |
| F currentpostthyphenchar  | F definenamespace            |
| F currentprehyphenchar    | F definenote                 |
| F currentproduct          | F defineparallel             |
| F currentproject          | F defineparbuilder           |
| F currentreferenceorder   | F defineprocesscolordummy    |
| F currentsectiontolist    | F defineprocesscolorglobal   |
| F datasetvariable         | F defineprocesscolorlocal    |
| F dayname                 | F defineprogram              |
| F decimals                | F definereference            |
| F decrementcounter        | F defineregister             |
| F decrementedcounter      | F definerule                 |
| F decrementsubcounter     | F definesectionlevels        |
| F defineaccents           | F defineshift                |
| F defineattribute         | F definesnapmethod           |
| F definebreakpoint        | F definespotcolorglobal      |
| F definebreakpoints       | F definestructureblock       |
| F definecharacterspacing  | F definestructureset         |
| F definechemical          | F definetransparency         |
| F definecolumnset         | F definetransparencyglobal   |
| F defineconversion        | F definetwopasslist          |
| F definecounter           | F definetypeface             |
| F definedlayoutcomponent  | F defineviewerlayer          |
| F definefallbackfamily    | F depthnumber                |
| F definefield             | F digits_normal              |
| F definefieldset          | F digits_reverse             |
| F definefilefallback      | F directboxfromcache         |
| F definefilesynonym       | F directcopyboxfromcache     |
| F definefont_one          | F disableautofontscript      |
| F definefont_two          | F disabledirectives          |

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|---------------------------------|--------------------------------|
| F disableexperiments            | F doifelseparentfile           |
| F disablejobsave                | F doifelsepathexist            |
| F disableparbuilder             | F doifelseposition             |
| F disableregime                 | F doifelsepositiononpage       |
| F disablespellchecking          | F doifelsepositionsonsamepage  |
| F disablestatetriggering        | F doifelsepositionsonthispage  |
| F disablestream                 | F doifelsepositionsused        |
| F disabletrackers               | F doifelserangeonpage          |
| F discardfromlist               | F doifelsereference            |
| F doanalyzeframedbox            | F doifelserightttoleftinbox    |
| F doifcommon                    | F doifelsesame                 |
| F doifcounter                   | F doifelsestackedfloats        |
| F doifelseblack                 | F doifelsesynonymshown         |
| F doifelseboxincache            | F doifelsesynonymused          |
| F doifelsebuffer                | F doifelseurldefined           |
| F doifelsecharinfont            | F doifelseutfmathabove         |
| F doifelsecommon                | F doifelseutfmathaccent        |
| F doifelsecontinewithfile       | F doifelseutfmathbelow         |
| F doifelseconverter             | F doifelseutfmathfiller        |
| F doifelsecounter               | F doifelseutfmathlimop         |
| F doifelsecurrentfonthasfeature | F doifelsevisualizer           |
| F doifelsedrawingblack          | F doiffieldsetelse             |
| F doifelsefieldcategory         | F doifinset                    |
| F doifelsefiledefined           | F doifnotcommon                |
| F doifelsefileexist             | F doifnotcounter               |
| F doifelsefirstchar             | F doifnotecontent              |
| F doifelsefontpresent           | F doifnoteonsamepageasprevious |
| F doifelseinelement             | F doifnotinset                 |
| F doifelseinputfile             | F doifnotsame                  |
| F doifelseinset                 | F doifposition                 |
| F doifelseintwopassdata         | F doifsame                     |
| F doifelseleapyear              | F doprocesstypescriptfile      |
| F doifselisthasentry            | F doreshapeframedbox           |
| F doifselisthasnumber           | F dosaveposition               |
| F doifselisthaspage             | F dosavepositionplus           |
| F doifselisthastitle            | F dosavepositionwhd            |
| F doifselocfile                 | F dosetposition                |
| F doifselemarking               | F dosetpositionbox             |
| F doifselmessage                | F dosetpositionplus            |
| F doifselobject                 | F dosetpositionstrut           |
| F doifselobjectreference        | F dosetpositionstrutkind       |
| F doifselolderversion           | F dosetpositionwhd             |
| F doifseloverlapping            | F dostarttextfile              |
| F doifselparallel               | F dostoptextfile               |

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|---------------------------|---------------------------------|
| F elapsedtime             | F fetchonemark                  |
| F enableasciimode         | F fetchposboxes                 |
| F enableautofences        | F fetchtwomarks                 |
| F enableautofontscript    | F figure_check                  |
| F enablebackgroundalign   | F figure_done                   |
| F enablebackgroundboxes   | F figure_dummy                  |
| F enablecolor             | F figure_flush_registered_pages |
| F enablecolorintents      | F figure_identify               |
| F enablecrlf              | F figure_include                |
| F enabledirectives        | F figure_mergegoodies           |
| F enableexperiments       | F figure_nof_registered_pages   |
| F enablefontcolorsschemes | F figure_pop                    |
| F enableinteraction       | F figure_push                   |
| F enablelinefillers       | F figure_register_page          |
| F enableparbuilder        | F figure_reset                  |
| F enableregime            | F figure_scale                  |
| F enablerules             | F figurefilename                |
| F enableshifts            | F figurefilepath                |
| F enablespellchecking     | F figurefiletype                |
| F enablestatetriggering   | F figurerequest                 |
| F enablestream            | F figuresetdimensions           |
| F enabletrackers          | F figurestatus                  |
| F enabletransparency      | F figureused                    |
| F enableutf               | F filterdefaultreference        |
| F enhancelinkedlist       | F filterreference               |
| F enhancelist             | F finalizebox                   |
| F enhancereference        | F findregisterinternal          |
| F enhanceregister         | F findtwopassdata               |
| F eposcolumn              | F finishcolumnsetflush          |
| F eposcolumnregistered    | F finishexport                  |
| F erasebuffer             | F firstcountervalue             |
| F execute                 | F firstinset                    |
| F expandcurrentreference  | F firstsubcountervalue          |
| F exportformdata          | F flushcolumnsetareas           |
| F exportreferences        | F flushcolumnsetcolumn          |
| F extendregister          | F flushcolumnsetrest            |
| F extensiblecode          | F flushfloat                    |
| F fakenextstrutline       | F flushlabeledfloat             |
| F fakeword                | F flushnotes                    |
| F featureattribute        | F flushpageinjectionsafter      |
| F featurelist             | F flushpageinjectionsbefore     |
| F feedback                | F flushpostponedblocks          |
| F fetchallmarks           | F flushpostponednotes           |
| F fetchmultipar           | F flushstream                   |



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|----------------------------------|------------------------------|
| F flushstreamcopy                | F getmessage                 |
| F fontchar                       | F getmpextensions            |
| F fontcharbyindex                | F getnaturaldimensions       |
| F fontcollectionclone            | F getnaturalwd               |
| F fontcollectiondefine           | F getnotestate               |
| F fontcollectionprepare          | F getobjectdimensions        |
| F fontcollectionregister         | F getobjectreference         |
| F fontcollectionreport           | F getobjectreferencepage     |
| F fontcollectionreset            | F getprivatechar             |
| F fontlookupgetkey               | F getprivateglyphslot        |
| F fontlookupgetkeyofindex        | F getprivatemathchar         |
| F fontlookupinitialize           | F getprivateslot             |
| F fontlookupnoffound             | F getprogram                 |
| F forceendjob                    | F getrandomdimen             |
| F forcequitjob                   | F getrandomfloat             |
| F formatcolor                    | F getrandomnumber            |
| F formatgray                     | F getrandomseed              |
| F from                           | F getreadfilename            |
| F frule                          | F getsetupstring             |
| F getbidimode                    | F getsomefullstructurenumber |
| F getbodyfontsizes               | F getsomestructurenumber     |
| F getboxfromcache                | F getspecificstructuretitle  |
| F getbuffer                      | F getstructurelevel          |
| F getbuffercxtlua                | F getstructurenumber         |
| F getbuffermkvi                  | F getsubstring               |
| F getcheckedinterfaceparameters  | F gettexbuffer               |
| F getcurrentprefixspec           | F gettwopassdata             |
| F getcurrentreferencemetadata    | F gettwopassdatalist         |
| F getdefaultfieldvalue           | F geturl                     |
| F getdocumentargument            | F getvisual                  |
| F getdocumentfilename            | F hboxtovbox                 |
| F getelementtag                  | F helpaction                 |
| F getfieldcategory               | F helpreference              |
| F getfile                        | F hexstringtonumber          |
| F getfirstcharacter              | F horizontalcode             |
| F getfirsttwopassdata            | F hour                       |
| F getfloatvariable               | F hyphenatedlist             |
| F getfullstructurenumber         | F hyphenatedurl              |
| F getinternalcachedlistreference | F immediatemessage           |
| F getinternallistreference       | F incrementcounter           |
| F getlasttwopassdata             | F incrementedcounter         |
| F getmarking                     | F incrementsubcounter        |
| F getmathdomain                  | F initializeexport           |
| F getmathitalics                 | F initializejob              |

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|------------------------------|------------------------------|
| F initializemathdomain       | F loadexamodes               |
| F initializemathitalics      | F loadfontgoodies            |
| F initializemathkernpairs    | F loadluamodule              |
| F initializestream           | F loadmapfile                |
| F initializetexdirectives    | F loadmapline                |
| F initializetexttrackers     | F loadspellchecklist         |
| F injectcurrentreference     | F loadtypescriptfile         |
| F injectcurrentreferencehtdp | F loadvisualizer             |
| F injectreference            | F locatefilepath             |
| F inlinechemical             | F locfilename                |
| F inputfilebarename          | F lower                      |
| F inputfilename              | F lpdf_adddocumentcolorspace |
| F inputfilerealsuffix        | F lpdf_adddocumenttextgstate |
| F inputfilesuffix            | F lpdf_adddocumentpattern    |
| F insertattachment           | F lpdf_adddocumentshade      |
| F insertcomment              | F lpdf_addtocatalog          |
| F insertfield                | F lpdf_addtoinfo             |
| F insertionnumber            | F lpdf_addtonames            |
| F insertrenderingwindow      | F lpdf_addtopageattributes   |
| F installedlanguages         | F lpdf_addtopageresources    |
| F installtexdirective        | F lpdf_addtopagesattributes  |
| F installtextracker          | F lpdf_collectedresources    |
| F jobfilefullname            | F lpdf_color                 |
| F jobfilename                | F luascript                  |
| F jobfilesuffix              | F luathread                  |
| F languagenumber             | F lxmlid                     |
| F lastcountervalue           | F markcontent                |
| F lastlinewidth              | F markingnumber              |
| F lastsubcountervalue        | F markingtitle               |
| F lchexnumber                | F markinjector               |
| F lchexnumbers               | F markregionbox              |
| F leapyear                   | F markregionboxcorrected     |
| F linenumbersstageone        | F markregionboxtagged        |
| F linenumbersstagetwo        | F markregionboxtaggedkind    |
| F listgroupindex             | F markvisualfonts            |
| F listlabel                  | F mathfraction               |
| F listlocation               | F mathrenderset              |
| F listnamespaces             | F message                    |
| F listprefixednumber         | F metapostescaped            |
| F listprefixedpage           | F metapostformatted          |
| F listrealpage               | F metapostgraphformat        |
| F listsize                   | F minute                     |
| F listtitle                  | F mixcleanup                 |
| F listuserdata               | F mixfinalize                |

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|------------------------------|-----------------------|
| F mixflushlist               | F ntimes              |
| F mixflushrest               | F number              |
| F mixgetsplit                | F numbers             |
| F mixsetsplit                | F octnumber           |
| F mixstate                   | F octstringtonumber   |
| F molecule                   | F operatingsystem     |
| F month                      | F ordinal             |
| F monthmnem                  | F outputfilename      |
| F monthname                  | F overloadbookmark    |
| F mpcolor                    | F overloaderror       |
| F mpflushliteral             | F overloadlowercase   |
| F mpflushreset               | F overloaduppercase   |
| F mpgettext                  | F pageofinternal      |
| F mpgraphic                  | F pagestaterealpage   |
| F mpoptions                  | F parpos              |
| F mppopvariables             | F pdfannot            |
| F mppushvariables            | F pdfdest             |
| F mprunset                   | F pdfrotation         |
| F mpruntab                   | F pdfstartmatrix      |
| F mprunvar                   | F pdfstartmirroring   |
| F mpsetclippath              | F pdfstartrotation    |
| F mpsetoutercolor            | F pdfstartscaling     |
| F mpsetsxsy                  | F pdfstopmatrix       |
| F mpsettext                  | F pdfstopmirroring    |
| F mptexget                   | F pdfstoprotation     |
| F mptexreset                 | F pdfstopscaling      |
| F mptexset                   | F percentageof        |
| F mptexsetfrombuffer         | F pgfxcolorspec       |
| F namedstructureuservariable | F pickupbuffer        |
| F namedstructurevariable     | F pickupmarkedcontent |
| F naturalwd                  | F pickuppunctuation   |
| F nbfs                       | F placeparallel       |
| F negatedcolorcomponent      | F popfloat            |
| F nextcountervalue           | F pophyphenation      |
| F nextparallel               | F popitaliccorrection |
| F nextsubcountervalue        | F poplist             |
| F nofconversions             | F poppath             |
| F nofdays                    | F poprandomseed       |
| F nofstackedfloats           | F popreferenceprefix  |
| F notedeltapage              | F popregime           |
| F noteinternal               | F popsectionblock     |
| F notelistindex              | F postponeotes        |
| F noteprefixednumber         | F prefixedconverted   |
| F notetitle                  | F prepareMPvariable   |

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|---------------------------|--------------------------------|
| F preparecolumnsetflush   | F registerbodyfontsize         |
| F presetmathalternate     | F registerbookmark             |
| F presetsymbolist         | F registerbuttons              |
| F presettabulate          | F registercolorintent          |
| F previouscountervalue    | F registercolumnsetarea        |
| F previoussubcountervalue | F registeredviewerlayer        |
| F processbodyfontsizes    | F registerfigurepattern        |
| F processbuffer           | F registerfiguresuffix         |
| F processcolorcomponents  | F registerfontalternative      |
| F processedfile           | F registerfontfallbackid       |
| F processedfiles          | F registerfontfamily           |
| F processfile             | F registerhelp                 |
| F processfilemany         | F registerhyphenationexception |
| F processfilenone         | F registerhyphenationpattern   |
| F processfileonce         | F registeritemgroup            |
| F processjob              | F registerlanguagefeatures     |
| F processlist             | F registerlinenumbering        |
| F processregister         | F registermaintextcolor        |
| F processsplit            | F registermpyfile              |
| F processsynonyms         | F registernamedlua             |
| F profilebox              | F registernamespace            |
| F purefontname            | F registerobject               |
| F pushfloat               | F registerpattern              |
| F pushhyphenation         | F registerpostponedblock       |
| F pushitaliccorrection    | F registerreferencedobject     |
| F pushlist                | F registerrendering            |
| F pushpath                | F registersection              |
| F pushrandomseed          | F registershownsynonym         |
| F pushreferenceprefix     | F registerstructureprocessor   |
| F pushregime              | F registersynonym              |
| F pushsectionblock        | F registerunit                 |
| F pushstream              | F registerusedsynonym          |
| F putboxincache           | F registeruserdata             |
| F putincolumnset          | F relatemarking                |
| F rawcharacter            | F renderingvar                 |
| F rawcountervalue         | F replacefeature               |
| F rawsetupstring          | F replacepospxywhd             |
| F rawsubcountervalue      | F reportstructure              |
| F referencepagedetail     | F resavefloat                  |
| F referencepagestate      | F resetboxesincache            |
| F referencerealpage       | F resetcharacteralign          |
| F registerattachment      | F resetcolumnset               |
| F registerbackendsymbol   | F resetcounter                 |
| F registerbackground      | F reseteffect                  |

F resetfeature  
F resetfontfeature  
F resetfontsolution  
F resetinjector  
F resetitaliccorrection  
F resetmapfiles  
F resetmarking  
F resetmathattributes  
F resetmathhang  
F resetmathitalics  
F resetnullfont  
F resetparallel  
F resetpath  
F resetprevdepth  
F resetreference  
F resetscript  
F resetshownsynonyms  
F resetstructureprocessor  
F resetsubcounter  
F resettimer  
F resettrackers  
F resetusedsynonyms  
F resolvedemoji  
F restartcounter  
F restartsubcounter  
F restorecounter  
F restorecurrentattributes  
F restorenote  
F restoreobject  
F reuserandomseed  
F revivefeature  
F romannumerals  
F rounded  
F ruby  
F runbuffer  
F runcontextjob  
F safechar  
F savebuffer  
F savecounter  
F savecurrentattributes  
F savedlistnumber  
F savedlistprefixednumber  
F savedlisttitle  
F savefloat

F savefont  
F savemargindata  
F savenote  
F savepagedata  
F savepageinjections  
F saveparallel  
F savespecificfloat  
F savestructureblock  
F savetaggedtwopassdata  
F savetwopassdata  
F savevariable  
F second  
F selectstructureblock  
F setactivecatcodes  
F setbreakpoints  
F setcharacteralign  
F setcharactercasing  
F setcharactercleaning  
F setcharacterkerning  
F setcharacterspacing  
F setcharacterstripping  
F setcloseddocumentaction  
F setclosepageaction  
F setcolormodel  
F setcolumnsetarea  
F setcolumnsetlines  
F setcolumnsetproperties  
F setcolumnsetstart  
F setcounter  
F setdataset  
F setdestinationattribute  
F setdigitsmanipulation  
F setdirection  
F setdocumentargument  
F setdocumentcommandline  
F setdocumentctxfile  
F setdocumentdefaultargument  
F setdocumentenvironments  
F setdocumentfilename  
F setdocumentfilenames  
F setdocumentmodes  
F setdocumentmodules  
F seteffect  
F setelementuserproperties

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|------------------------------|----------------------------|
| F setextrafontkerns          | F setmpextensions          |
| F setfieldcalculationset     | F setnaturalwd             |
| F setfigurelookuporder       | F setnegative              |
| F setfigurepaths             | F setnextinternalreference |
| F setfirstline               | F setnextreferenceorder    |
| F setfontfeature             | F setnotestate             |
| F setfontofid                | F setopendocumentaction    |
| F setfontsolution            | F setopenpageaction        |
| F setformat                  | F setowncounter            |
| F setformsmethod             | F setownsubcounter         |
| F sethsizecolumnset          | F setpagecolormodel        |
| F sethsizecolumnspan         | F setpagestate             |
| F sethyphenatedurlcharacters | F setpagestaterealpageno   |
| F sethyphenationfeatures     | F setpagetransition        |
| F sethyphenationmethod       | F setparbuilder            |
| F setinitial                 | F setpdfcompression        |
| F setinitialsectionblock     | F setprofile               |
| F setinjector                | F setrandomseed            |
| F setinnerreferencemethod    | F setrealign               |
| F setinsertionlocation       | F setrealspaces            |
| F setinterfaceconstant       | F setreferencearguments    |
| F setinterfaceelement        | F setreferenceoperation    |
| F setinterfacemessage        | F setregionbox             |
| F setinterfacemessages       | F setregionboxtagged       |
| F setinterfacevariable       | F setregistermethod        |
| F setinternalreference       | F setreplacements          |
| F setitaliccorrection        | F setruby                  |
| F setjavascriptpreamble      | F setscript                |
| F setjobcomment              | F setsectionblock          |
| F setlanguageexceptions      | F setsectionentry          |
| F setlanguagesynonym         | F setstructureblockstate   |
| F setlettercatcodes          | F setstructurelevel        |
| F setmapfile                 | F setstructurenumber       |
| F setmapline                 | F setsubcounter            |
| F setmarking                 | F settagaspect             |
| F setmathalphabet            | F settagcombination        |
| F setmathalternate           | F settagconstruct          |
| F setmathattribute           | F settagdelimitedsymbol    |
| F setmathdirection           | F settagfigure             |
| F setmathdomain              | F settaggedmetadata        |
| F setmathhang                | F settaghighlight          |
| F setmathitalics             | F settagitem               |
| F setmathpenalties           | F settagitemgroup          |
| F setmathstyle               | F settaglist               |

F settagnotation  
F settagnotationsymbol  
F settagproperty  
F settagproperty\_b  
F settagproperty\_n  
F settagregister  
F settagsorting  
F settagsubsentencesymbol  
F settagsynonym  
F settagtablecell  
F settagtabulatecell  
F setupbookmarks  
F setupcanvas  
F setupcharacterspacing  
F setupexport  
F setupfontexpansion  
F setupfontprotrusion  
F setupidentity  
F setupinsertion  
F setupitaliccorrection  
F setuplinenumbering  
F setupsynctex  
F setuserinterface  
F setvalidinterfacekeys  
F setvisual  
F setvisualfont  
F setvisuallayer  
F setvisuals  
F setvsizecolumnset  
F setxmpfile  
F showassignerror  
F showattributes  
F showcounter  
F showdebuginfo  
F showdirectives  
F showdiscretionaries  
F showexperiments  
F showhyphenatedinlist  
F showhyphenationtrace  
F showinjector  
F showjustification  
F showlogcategories  
F showmessage  
F showtrackers

F sin  
F sind  
F specifiedfont  
F specifiedfontsize  
F specifiedfontspec  
F splitfilename  
F spotcolorname  
F spotcolorparent  
F spotcolorvalue  
F startactualtext  
F startchemical  
F startcolorset  
F startcomponent  
F startenvironment  
F startfontsolution  
F startparbuilder  
F startproduct  
F startproject  
F startregime  
F startruby  
F startsectionlevel  
F startstream  
F starttag  
F starttag\_c  
F starttag\_d  
F starttag\_u  
F starttext  
F startviewerlayer  
F step  
F stopactualtext  
F stopchemical  
F stopcolorset  
F stopcomponent  
F stopenvironment  
F stopfontsolution  
F stopparbuilder  
F stopproduct  
F stopproject  
F stopregime  
F stopsectionlevel  
F stopstream  
F stoptag  
F stoptext  
F stopviewerlayer

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|-----------------------------|--------------------------|
| F storejavascriptcode       | F transparencycomponents |
| F storejavascriptpreamble   | F triggerpagebuilder     |
| F storenote                 | F truefilename           |
| F storeregister             | F truefontname           |
| F strdp                     | F type                   |
| F strhd                     | F typebuffer             |
| F strht                     | F typefile               |
| F strip                     | F typesetbuffer          |
| F structureautocatcodedget  | F uchar                  |
| F structurecatcodedget      | F uchexnumber            |
| F structuregivencatcodedget | F uchexnumbers           |
| F structurenumber           | F undefinechemical       |
| F structuretitle            | F unicodechar            |
| F structureuservariable     | F unihex                 |
| F structurevariable         | F unit_normal            |
| F strwd                     | F unit_reverse           |
| F subcountervalue           | F unloadlanguage         |
| F subcountervalues          | F upper                  |
| F subsubcountervalues       | F useMPLibrary           |
| F subtractfeature           | F useanyfile             |
| F synccolor                 | F useanyfileonce         |
| F synccolorclone            | F usecldfilename         |
| F synccolorcount            | F usecldfilenameonce     |
| F synchronizemarking        | F usecolors              |
| F synchronizestream         | F usecomponent           |
| F syntexblockfilename       | F useenvironment         |
| F syntexpause               | F usefigurebase          |
| F syntexresetfilename       | F usefile                |
| F syntexresume              | F usejavascriptpreamble  |
| F syntexsetfilename         | F usejavascriptscripts   |
| F synonymmeaning            | F useluafile             |
| F synonymname               | F useluafileonce         |
| F systemlog                 | F useluamodule           |
| F tagmfunctionlab           | F usemodules             |
| F tagmfunctiontxt           | F usepath                |
| F tan                       | F useproduct             |
| F tand                      | F useproject             |
| F texdefinition_one         | F usesubpath             |
| F texdefinition_two         | F usesymbols             |
| F textime                   | F usetexfile             |
| F thefirstcharacter         | F usetexfileonce         |
| F themaxboxwidth            | F useurl                 |
| F theremainingcharacters    | F usexmlfile             |
| F tochar                    | F usexmlfileonce         |



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|-------------------------------------|------------------------|
| F usezipfile                        | F xmlapplyselectors    |
| F utfchar                           | F xmlatt               |
| F utfmathclass                      | F xmlattdef            |
| F utfmathcommand                    | F xmlattribute         |
| F utfmathcommandabove               | F xmlattributedef      |
| F utfmathcommandbelow               | F xmlbadinclusions     |
| F utfmathcommandfiller              | F xmlbeforesetup       |
| F utfmathfiller                     | F xmlchainatt          |
| F utfmathstretch                    | F xmlchainattdef       |
| F vboxliststohbox                   | F xmlchecknamespace    |
| F verbose                           | F xmlcommand           |
| F vspacing                          | F xmlconcat            |
| F vspacingcollapse                  | F xmlconcatrange       |
| F vspacingcollapseonly              | F xmlcontext           |
| F vspacingdefine                    | F xmlcount             |
| F vspacingsetamount                 | F xmldelete            |
| F vspacingsnap                      | F xmldirect            |
| F way                               | F xmldirectives        |
| F weekday                           | F xmldirectivesafter   |
| F weekdayname                       | F xmldirectivesbefore  |
| F writestatus                       | F xmldisplayverbatim   |
| F x_table_c                         | F xmldoif              |
| F x_table_cleanup                   | F xmldoifelse          |
| F x_table_construct                 | F xmldoifelseempty     |
| F x_table_create                    | F xmldoifelseselfempty |
| F x_table_finish_row                | F xmldoifelsetext      |
| F x_table_flush                     | F xmldoifempty         |
| F x_table_init_construct            | F xmldoifnot           |
| F x_table_init_reflow_height        | F xmldoifnotempty      |
| F x_table_init_reflow_height_option | F xmldoifnotselfempty  |
| F x_table_init_reflow_width         | F xmldoifnottext       |
| F x_table_init_reflow_width_option  | F xmldoifselfempty     |
| F x_table_next_row                  | F xmldoiftext          |
| F x_table_next_row_option           | F xmlelement           |
| F x_table_r                         | F xmlfilter            |
| F x_table_reflow_height             | F xmlfilterlist        |
| F x_table_reflow_width              | F xmlfirst             |
| F x_table_set_construct             | F xmlflush             |
| F x_table_set_reflow_height         | F xmlflushcontext      |
| F x_table_set_reflow_width          | F xmlflushlinewidth    |
| F xmladdindex                       | F xmlflushpure         |
| F xmlafterssetup                    | F xmlflushsetups       |
| F xmlall                            | F xmlflushspacewise    |
| F xmlappendsetup                    | F xmlflushstext        |

F xmlfunction  
 F xmlgetindex  
 F xmlinclude  
 F xmlincludeoptions  
 F xmlinclusion  
 F xmlinclusions  
 F xmlindex  
 F xmlinlineverbatim  
 F xmlinstalldirective  
 F xmllast  
 F xmllastatt  
 F xmllastmatch  
 F xmlload  
 F xmlloadbuffer  
 F xmlloaddata  
 F xmlloaddirectives  
 F xmlloadentities  
 F xmlmain  
 F xmlmatch  
 F xmlname  
 F xmlnamespace  
 F xmlnonspace  
 F xmlpath  
 F xmlpopmatch  
 F xmlpos  
 F xmlprependsetup  
 F xmlpure  
 F xmlpushmatch  
 F xmlraw  
 F xmlrawtex  
 F xmlrefatt  
 F xmlregisters  
 F xmlremapname  
 F xmlremapnamespace  
 F xmlremovesetup  
 F xmlresetinjectors  
 F xmlresetsetup  
 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 xmltobuffertextonly  
 F xmltobufferverbose  
 F xmltofile  
 F xmltoparameters  
 F xmlverbatim  
 F xmlwithindex  
 F year

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

## io (basic lua)

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

# job (context)

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

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

## lang (basic tex)

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

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

# languages (context)

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

B enables

T methods

F found

N threshold

F load



# layouts (context)

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

## lfs (extra lua)

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

## libraries (context)

**basiclua** data table

**basictex** data table

**builtin** data table

**extralua** data table

**extratex** data table

**functions** data table

**globals** data table

## lmx (context)

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

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

# logs (context)

|                     |          |
|---------------------|----------|
| <b>application</b>  | function |
| <b>categories</b>   | function |
| <b>direct</b>       | function |
| <b>disable</b>      | function |
| <b>enable</b>       | function |
| <b>exporters</b>    | table    |
| <b>extendbanner</b> | function |
| <b>flush</b>        | function |
| <b>help</b>         | function |
| <b>messenger</b>    | function |
| <b>new</b>          | function |
| <b>newline</b>      | function |
| <b>poptarget</b>    | function |
| <b>pushtarget</b>   | function |
| <b>report</b>       | function |
| <b>reportbanner</b> | function |
| <b>reporter</b>     | function |
| <b>reporters</b>    | table    |
| F banner            |          |
| F export            |          |
| F help              |          |
| F info              |          |
| F lines             |          |
| F version           |          |
| <b>reportline</b>   | function |

|                          |          |
|--------------------------|----------|
| <b>reportlines</b>       | function |
| <b>setformats</b>        | function |
| <b>setformatters</b>     | function |
| <b>setlogfile</b>        | function |
| <b>setmessenger</b>      | function |
| <b>setprocessor</b>      | function |
| <b>setprogram</b>        | function |
| <b>settarget</b>         | function |
| <b>settimedlog</b>       | function |
| <b>settranslations</b>   | function |
| <b>show</b>              | function |
| <b>show_close</b>        | function |
| <b>show_load</b>         | function |
| <b>show_open</b>         | function |
| <b>simple</b>            | function |
| <b>simpleline</b>        | function |
| <b>simplelines</b>       | function |
| <b>start_page_number</b> | function |
| <b>status</b>            | function |
| <b>stop_page_number</b>  | function |
| <b>subdirect</b>         | function |
| <b>subreport</b>         | function |
| <b>system</b>            | function |
| <b>texerrormessage</b>   | function |
| <b>writer</b>            | function |

# lpdf (context)

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

|                             |          |                           |          |
|-----------------------------|----------|---------------------------|----------|
| <b>settime</b>              | function | <b>tosixteen</b>          | function |
| <b>settrailerid</b>         | function | <b>transform</b>          | function |
| <b>shareobject</b>          | function | <b>transparency</b>       | function |
| <b>shareobjectreference</b> | function | <b>transparencycode</b>   | function |
| <b>spotcode</b>             | function | <b>transparencygroups</b> | table    |
| <b>stream</b>               | function | B none                    |          |
| <b>string</b>               | function | <b>transparencyvalue</b>  | function |
| <b>timestamp</b>            | function | <b>unicode</b>            | function |
| <b>toeight</b>              | function | <b>verbose</b>            | function |
| <b>topdfdoc</b>             | function |                           |          |

## lpeg (basic lua)

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



# ltn12 (extra lua)

**BLOCKSIZE** number

**filter** table

F chain

F cycle

**pump** table

F all

F step

**sink** table

F chain

F error

F file

F null

F simplify

F table

**source** table

F cat

F chain

F empty

F error

F file

F rewind

F simplify

F string

# lua (basic tex)

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

# luatex (context)

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

# lxml (context)

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

|                         |          |                      |            |
|-------------------------|----------|----------------------|------------|
| <b>resetsetup</b>       | function | <b>splitid</b>       | function   |
| <b>resolvedentity</b>   | function | <b>startraw</b>      | function   |
| <b>root</b>             | function | <b>startunesaped</b> | function   |
| <b>save</b>             | function | <b>stopraw</b>       | function   |
| <b>serialize</b>        | function | <b>stopunesaped</b>  | function   |
| <b>setaction</b>        | function | <b>store</b>         | function   |
| <b>setcdata</b>         | function | <b>strip</b>         | function   |
| <b>setcommandtonone</b> | function | <b>stripped</b>      | function   |
| <b>setcommandtotext</b> | function | <b>tag</b>           | function   |
| <b>setsetup</b>         | function | <b>text</b>          | function   |
| <b>snippet</b>          | function | <b>tobuffer</b>      | function   |
| <b>sorters</b>          | table    | <b>tofile</b>        | function   |
| F add                   |          | <b>toparameters</b>  | function   |
| F compare               |          | <b>toverbatim</b>    | function   |
| F flush                 |          | <b>verbatim</b>      | function   |
| F reset                 |          | <b>withindex</b>     | function   |
| F show                  |          | <b>xmltexhandler</b> | data table |
| F sort                  |          |                      |            |

## math (basic lua)

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

# mathematics (context)

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

## mbox (context)

|                      |          |
|----------------------|----------|
| <b>parse</b>         | function |
| <b>parse_from</b>    | function |
| <b>parse_header</b>  | function |
| <b>parse_headers</b> | function |

|                      |          |
|----------------------|----------|
| <b>parse_message</b> | function |
| <b>split_headers</b> | function |
| <b>split_mbox</b>    | function |
| <b>split_message</b> | function |



## md5 (extra lua)

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

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

# metapost (context)

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

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

## mime (extra lua)

**b64** function

**decode** function

**decodet** table

F base64

F quoted-printable

**dot** function

**encode** function

**encodet** table

F base64

F quoted-printable

**eol** function

**normalize** function

**qp** function

**qpwrp** function

**stuff** function

**unb64** function

**unqp** function

**wrap** function

**wrapt** table

F base64

F default

F quoted-printable

F text

**wrp** function

## mp (context)

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

F load

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

## mplib (extra tex)

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

# noads (context)

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



## node (basic tex)

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

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

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

## nodes (context)

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

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

**noadcodes**  
**noadoptoptions**

N axis  
N exact  
N left  
N middle  
N no\_axis  
N right  
N set  
N unused\_1  
N unused\_2

**nodecodes**  
**nopts**  
**nuts**

F append  
F apply  
F applyvisuals  
F check\_discretionaries  
F concat  
F copy  
F copy\_list  
F copy\_no\_components  
F copy\_node  
F copy\_only\_glyphs  
F copy\_properties  
F copyvisual  
F count  
F count\_components  
F countall  
F current\_attr  
F delete  
F dimensions  
F effective\_glue  
F end\_of\_math  
F find\_attribute  
F first\_glyph  
F firstcharacter  
F firstcharinbox  
F firststglyph  
F flush  
F flush\_list  
F flush\_node  
F free  
F fullhpack

**data table**  
**table**

**data table**  
**function**  
**table**

F get\_components  
F get\_synctex\_fields  
F getattr  
F getattribute  
F getattributelist  
F getattrlist  
F getboth  
F getbox  
F getboxglue  
F getchar  
F getcomponents  
F getdepth  
F getdir  
F getdisc  
F getdiscretionary  
F getfield  
F getfont  
F getglue  
F getheight  
F getid  
F getkern  
F getlang  
F getlanguage  
F getleader  
F getlist  
F getnext  
F getnucleus  
F getoffsets  
F getpenalty  
F getprev  
F getprop  
F getshift  
F getsub  
F getsubtype  
F getsup  
F getsurround  
F getwhd  
F getwidth  
F has\_attribute  
F has\_field  
F has\_glyph  
F hpack  
F insert\_after  
F insert\_before

F insert\_list\_after  
 F is\_char  
 F is\_direct  
 F is\_display\_math  
 F is\_glyph  
 F is\_node  
 F is\_nut  
 F is\_zero\_glue  
 F ischar  
 F isglyph  
 F kerning  
 F last\_node  
 F leftmarginwidth  
 F length  
 F ligaturing  
 F link  
 F linked  
 F locate  
 F mlist\_to\_hlist  
 F nestedtracedslide  
 F new  
 T pool  
   F accent  
   F baselineskip  
   F boundary  
   F choice  
   F cleanup  
   F delim  
   F delimiter  
   F disc  
   F emptyrule  
   F fence  
   F fontkern  
   F fraction  
   F glue  
   F gluespec  
   F glyph  
   F hlist  
   F italicckern  
   F kern  
   F latelua  
   F lateluafunction  
   F leader  
   F leftmarginkern

F leftskip  
 F lineskip  
 F mathchar  
 F mathtextchar  
 F negatedglue  
 F noad  
 F pdfannotation  
 F pdfdestination  
 F pdfdirectliteral  
 F pdfliteral  
 F pdforiginliteral  
 F pdfpageliteral  
 F pdfrawliteral  
 F pdfrestore  
 F pdfsave  
 F pdfsetmatrix  
 F penalty  
 F radical  
 F register  
 F rightmarginkern  
 F rightskip  
 F rule  
 F shrink  
 F special  
 F stretch  
 F subbox  
 F submlist  
 F temp  
 F textdir  
 F usage  
 F userattributes  
 T usersids  
   N margins.inline  
   N property  
   N splitters.one  
   N splitters.two  
 F userlist  
 F userlua  
 F usernumber  
 F userrule  
 F userstring  
 F usertokens  
 F vlist  
 F wordboundary

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



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

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

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

## number (context)

|                       |            |
|-----------------------|------------|
|                       | function   |
| <b>basepoints</b>     | function   |
| <b>bit</b>            | function   |
| <b>bits</b>           | function   |
| <b>bytetodecimal</b>  | function   |
| <b>clearbit</b>       | function   |
| <b>compactfloat</b>   | function   |
| <b>decimaltobyte</b>  | function   |
| <b>dimenfactors</b>   | data table |
| <b>formatted</b>      | function   |
| <b>formattedfloat</b> | function   |
| <b>hasbit</b>         | function   |
| <b>maxdimen</b>       | number     |
| <b>nopts</b>          | function   |
| <b>percent</b>        | function   |
| <b>points</b>         | function   |
| <b>pts</b>            | function   |
| <b>setbit</b>         | function   |
| <b>signed</b>         | function   |
| <b>sparseexponent</b> | function   |
| <b>splitdimen</b>     | function   |

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

# objects (context)

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

## os (basic lua)

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

## package (basic lua)

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

# pagebuilders (context)

## columnsets      table

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

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

## injections      table

- F flushafter
- F flushbefore
- F save

## mixedcolumns      table

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



## pdf (basic tex)

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

# pdfscanner (context)

**scan** function

# physics (context)

**units** table

F registerunit

D tables

# publications (context)

|                             |            |              |
|-----------------------------|------------|--------------|
| <b>addtexentry</b>          | function   | S author     |
| <b>analyze</b>              | function   | T categories |
| <b>anywhere</b>             | function   | T article    |
| <b>authorcache</b>          | data table | S category   |
| <b>authorcollapsers</b>     | data table | T extra      |
| <b>authorhashers</b>        | table      | T fields     |
| F invertedshort             |            | S author     |
| F normal                    |            | S editor     |
| F normalinverted            |            | S journal    |
| F normalshort               |            | S keywords   |
| F short                     |            | S number     |
| <b>authormap</b>            | data table | S pages      |
| <b>authortoregister</b>     | function   | S title      |
| <b>casters</b>              | table      | S volume     |
| F author                    |            | S year       |
| F keyword                   |            | T optional   |
| F pagenumber                |            | T required   |
| F range                     |            | T sets       |
| <b>checkeddataset</b>       | function   | T author     |
| <b>citevariants</b>         | 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       |
| <b>collected</b>            | data table | T optional   |
| <b>components</b>           | table      | T required   |
| F author                    |            | T sets       |
| <b>concatstate</b>          | function   | T author     |
| <b>converttoxml</b>         | function   | T editionset |
| <b>currentspecification</b> | 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 | <b>datasets</b>        | table      |
| S subtitle     | <b>detailed</b>        | table      |
| S title        | <b>endnotes_to_btx</b> | function   |
| S year         | <b>enhancer</b>        | table      |
| T optional     | S arguments            |            |
| T required     | T askip                |            |
| T sets         | B dirty                |            |
| T author       | T gskip                |            |
| T virtual      | T kind                 |            |
| T demo-b       | T list                 |            |
| S category     | T system               |            |
| T extra        | T order                |            |
| T fields       | <b>enhancers</b>       | table      |
| S author       | F details              |            |
| S institution  | F order                |            |
| S organization | F suffixes             |            |
| S subtitle     | <b>finder</b>          | function   |
| S title        | <b>firstofrange</b>    | function   |
| S year         | <b>found</b>           | function   |
| T optional     | <b>get</b>             | function   |
| T required     | <b>getcasted</b>       | function   |
| T sets         | <b>getdetail</b>       | function   |
| T authors      | <b>getdirect</b>       | function   |
| T virtual      | <b>getfaster</b>       | function   |
| S comment      | <b>getfield</b>        | function   |
| S copyright    | <b>getfuzzy</b>        | function   |
| T fields       | <b>getindex</b>        | function   |
| S name         | <b>inspectors</b>      | data table |
| T types        | <b>journals</b>        | table      |
| S author       | F abbreviated          |            |
| S editor       | F add                  |            |
| S keywords     | F expanded             |            |
| S number       | F load                 |            |
| S page         | F save                 |            |
| S pages        | <b>lastofrange</b>     | function   |
| S volume       | <b>lists</b>           | table      |
| S version      | F collectentries       |            |
| D virtual      | F combiinlist          |            |

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

|                     |       |                    |          |
|---------------------|-------|--------------------|----------|
| F showfields        |       | <b>usedataset</b>  | function |
| F showhashedauthors |       | <b>usedentries</b> | function |
| F showtables        |       | <b>writers</b>     | table    |
| F showvariants      |       | F author           |          |
| <b>typesetters</b>  | table | F keyword          |          |
| F author            |       | F pagenumber       |          |
| F string            |       | F range            |          |

## regimes (context)

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

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



## resolvers (context)

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

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

## sandbox (context)

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

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

# scripts (context)

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

## set (context)

**contains**    function

**create**     function

**tolist**     function

**tonumber**   function

**totable**    function

## sio (context)

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

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

# socket (extra lua)

**BLOCKSIZE** number  
**\_DEBUG** boolean  
**\_SETSIZE** number  
**bind** function  
**choose** function  
**connect** function  
**connect4** function  
**connect6** function  
**dns** table

F getaddrinfo  
F gethostname  
F getnameinfo  
F tohostname  
F toip

**ftp** table

S PASSWORD  
N PORT  
N TIMEOUT  
S USER  
F command  
F get  
F open  
F put

**gettime** function

**headers** table

T canonic  
S accept  
S accept-charset  
S accept-encoding  
S accept-language  
S accept-ranges  
S action  
S age  
S allow  
S alternate-recipient  
S arrival-date  
S authorization  
S bcc  
S cache-control  
S cc  
S comments

S connection  
S content-description  
S content-disposition  
S content-encoding  
S content-id  
S content-language  
S content-length  
S content-location  
S content-md5  
S content-range  
S content-transfer-encoding  
S content-type  
S date  
S diagnostic-code  
S dsn-gateway  
S etag  
S expect  
S expires  
S final-log-id  
S final-recipient  
S from  
S host  
S if-match  
S if-modified-since  
S if-none-match  
S if-range  
S if-unmodified-since  
S in-reply-to  
S keywords  
S last-attempt-date  
S last-modified  
S location  
S max-forwards  
S message-id  
S mime-version  
S original-envelope-id  
S original-recipient  
S pragma  
S proxy-authenticate  
S proxy-authorization  
S range

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

**http**      **table**

N PORT  
 N TIMEOUT  
 S USERAGENT  
 F open  
 F request

**newtry**      **function**

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

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

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

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

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

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

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

N TIMEOUT  
 F connect

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

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



# sorters (context)

**basicsorter**      function

**comparers**        table

    F basic

**constants**        table

    S defaultdigits

    S defaultlanguage

    S defaultmethod

    N digitmaximum

    N digitoffset

    N ignoredoffset

    N replacementoffset

    T validmethods

        B ch

        B mc

        B mm

        B pc

    B pm

    B uc

    B zc

    B zm

**definitions**      data table

**firstofsplit**      function

**packch**            function

**packuc**            function

**setlanguage**      function

**sort**                function

**splitters**         table

    F utf

**strip**              function

**tracers**           data table

**update**            function

## statistics (context)

|                       |          |
|-----------------------|----------|
| <b>checkfmtstatus</b> | function |
| <b>elapsed</b>        | function |
| <b>elapsedindeed</b>  | function |
| <b>elapsedseconds</b> | function |
| <b>elapsedtime</b>    | function |
| <b>enable</b>         | boolean  |
| <b>formatruntime</b>  | function |
| <b>hastiming</b>      | function |
| <b>memused</b>        | function |
| <b>register</b>       | function |

|                      |          |
|----------------------|----------|
| <b>resettiming</b>   | function |
| <b>runtime</b>       | function |
| <b>savefmtstatus</b> | function |
| <b>show</b>          | function |
| <b>starttiming</b>   | function |
| <b>stoptiming</b>    | function |
| <b>threshold</b>     | number   |
| <b>timed</b>         | function |
| <b>tracefunction</b> | function |

## status (basic tex)

**list**                    function  
**resetmessages**    function

## storage (context)

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

## streams (context)

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

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

## string (basic lua)

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

# structures (context)

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

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



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

## pages

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

## references

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

## table

## table

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

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

## registers

## table

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

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

## sections

## table

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

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

## table (basic lua)

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

## tex (basic tex)

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

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

## texconfig (basic tex)

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

## texio (basic tex)

**setescape** function  
**write** function

**write\_nl** function



## token (basic tex)

|                       |          |                     |          |
|-----------------------|----------|---------------------|----------|
| <b>create</b>         | function | <b>is_token</b>     | function |
| <b>get_active</b>     | function | <b>put_next</b>     | function |
| <b>get_cmdname</b>    | function | <b>scan_code</b>    | function |
| <b>get_command</b>    | function | <b>scan_csname</b>  | function |
| <b>get_csname</b>     | function | <b>scan_dimen</b>   | function |
| <b>get_expandable</b> | function | <b>scan_glue</b>    | function |
| <b>get_id</b>         | function | <b>scan_int</b>     | function |
| <b>get_index</b>      | function | <b>scan_keyword</b> | function |
| <b>get_macro</b>      | function | <b>scan_string</b>  | function |
| <b>get_meaning</b>    | function | <b>scan_token</b>   | function |
| <b>get_mode</b>       | function | <b>scan_toks</b>    | function |
| <b>get_next</b>       | function | <b>scan_word</b>    | function |
| <b>get_protected</b>  | function | <b>set_macro</b>    | function |
| <b>get_tok</b>        | function | <b>type</b>         | function |

# tokens (context)

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

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

**collectors** table

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

**compile**      function  
**constant**    function  
**converters** table

S toboolean  
S todimen  
S toglue  
S tonumber  
S tostring

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

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

**hbox**        userdata  
**istoken**     function  
**letter**      function  
**letters**     function  
**other**       function  
**pickup**      function  
**printlist**   function  
**scanners**    table

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

**scantable**    function

## setters table

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

## shortcuts table

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

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

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

# tracers (context)

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

## trackers (context)

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

# typesetters (context)

## alignments table

- F handler
- F set

## breakpoints table

- F define
- F handler
- D mapping
- T methods
- T numbers
- F set
- F setreplacement

## cases table

- T actions
- F handler
- F register
- F set

## characteralign table

- F handler
- F resetcharacteralign
- F setcharacteralign

## characters table

- F handler
- T methods
- F replacensp
- F replacenspaces

## checkers table

- F handler
- F reset
- F set

## cleaners table

- F handler
- F set

## digits table

- T actions
- F handler
- F set

## directions table

- F getfences
- F getglobal
- F getmethod
- F handler

- T handlers
- F installhandler
- F processmath
- F set
- F setcolor
- F setmath
- F tomode

## firstlines table

- T actions
- F default
- F line
- F word
- F handler
- F set

## fontkerns table

- F handler

## initials table

- T actions
- F default
- F addanchortoline
- F addtoline
- F calculatedelta
- F checkline
- F handler
- F moveinline
- F normalize
- F set

## injectors table

- F check
- T list
- F mark
- F reset
- F set
- F show

## italics table

- F enablemath
- F enabletext
- F forcevariant
- F handler
- F reset
- F set

## **kerns**                      table

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

## **manipulators**            table

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

## **margins**                      table

F finalhandler  
F globalhandler  
F localhandler  
F save

## **marksuspects**            function

## **paragraphs**              table

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

## **processors**                table

F apply  
F register

F reset  
F split  
F startapply  
F stopapply  
F stripped  
F toString

## **rubies**                      table

F attach  
F check

## **showsuspects**            function

## **spacings**                      table

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

F reset  
F set  
F setup

## **wrappers**                      table

F handler

## **xtables**                      table

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



# unicode (extra lua)

## ascii table

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

## grapheme table

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

## latin1 table

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

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

## toutf32string function

## utf8 table

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

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

## url (context)

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

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

# utilities (context)

## debugger table

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

## files table

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

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

## formatters table

- F formatcolumns
- F list
- F stripzeros

## garbagecollector table

- F check
- N criterium
- B enabled

## lua table

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

## packers table

- F hashed
- F new
- F pack
- F simplehashed

|   |  |
|---|--|
| F strip   | B modern-light   |
| F unpack  | T modern-mono,modern-base-mono   |
| N version   | B modern-base-mono   |
| <b>parsers</b>  | B modern-mono  |
| <b>table</b>  | T modern-variable,latin-modern-variable-designsize,latin-modern-variable |
| F add_settings_to_array   | B latin-modern-variable  |
| F arguments_to_table  | B latin-modern-variable-designsize                                       |
| F array_to_string   | B modern-variable  |
| F csvsplitter   | T modernvariable,modern-variable   |
| F getparameters   | B modern-variable  |
| F groupedsplitat  | B modernvariable   |
| F hash_to_string  | T modernvariablelight,modern-variable-light                              |
| T hashes  | B modern-variable-light  |
| T settings_to_set   | B modernvariablelight  |
| T max,fit,broad,auto  | T serif,sans,mono  |
| B auto  | B mono   |
| B broad   | B sans   |
| B fit   | B serif  |
| B max   | T text,hidden,paper,page,leftpage,rightpage                              |
| T modern,latin-modern   | B hidden   |
| B latin-modern  | B leftpage   |
| B modern  | T modern-condensed,latin-modern-condensed                                |
| T modern,latin-modern,modern-variable,latin-modern-variable,modern-condensed,latin-modern-condensed                         | B paper  |
| B latin-modern  | B rightpage  |
| B latin-modern-condensed  | B text   |
| B latin-modern-variable   | F iterator   |
| B modern  | F keq_to_hash  |
| B modern-condensed  | F listitem   |
| B modern-variable   | F make_settings_to_hash_pattern  |
| T modern,latin-modern-designsize,latin-modern   | F mergehashes  |
| B latin-modern  | F options_to_array   |
| B latin-modern-designsize   | F options_to_hash  |
| B modern  | T patterns   |
| T modern,modern-base  | U settings_to_array  |
| B modern  | U settings_to_hash_a   |
| B modern-base   | U settings_to_hash_b   |
| T modern-condensed,latin-modern-condensed-designsize,latin-modern-condensed,latin-modern-light-condensed,latin-modern-light | U settings_to_hash_c   |
| B latin-modern-condensed  | U unittotex  |
| B latin-modern-condensed-designsize   | F process_stripped_settings  |
| B latin-modern-light-condensed  | F rfc4180splitter  |
| B modern-condensed  | F runtime  |
| B modern-light-condensed  | F settings_to_array  |
| T modern-light,latin-modern-light-designsize,latin-modern-light   | F settings_to_array_obey_fences  |
| B latin-modern-light  | F settings_to_array_with_repeat  |
| B latin-modern-light-designsize   |  |

|                              |          |                   |       |
|------------------------------|----------|-------------------|-------|
| F settings_to_hash           |          | F list            |       |
| F settings_to_hash_strict    |          | F new             |       |
| F settings_to_hash_tolerant  |          | F register        |       |
| F settings_to_numbers        |          | F report          |       |
| F settings_to_set            |          | F reset           |       |
| F simple_hash_to_string      |          | F show            |       |
| F splitmethod                |          | <b>stacker</b>    | table |
| F splitthousands             |          | F new             |       |
| F stepper                    |          | <b>storage</b>    | table |
| F stripped_settings_to_array |          | F allocate        |       |
| F unittotex                  |          | F checked         |       |
| F unittoxml                  |          | F mark            |       |
| <b>randomizer</b>            | table    | F marked          |       |
| F get                        |          | F setinitializer  |       |
| F getnumber                  |          | F sparse          |       |
| F getseed                    |          | <b>streams</b>    | table |
| F popseed                    |          | F close           |       |
| F pushseed                   |          | F getposition     |       |
| F reuseseed                  |          | F look            |       |
| F setseed                    |          | F open            |       |
| F setseedi                   |          | F read2dot14      |       |
| <b>report</b>                | function | F read2dot4       |       |
| <b>sequencers</b>            | table    | F readbyte        |       |
| F appendaction               |          | F readbytes       |       |
| F appendgroup                |          | F readbytetable   |       |
| F compile                    |          | F readcardinal    |       |
| F disableaction              |          | F readcardinal1   |       |
| F disablegroup               |          | F readcardinal2   |       |
| F enableaction               |          | F readcardinal2LE |       |
| F enablegroup                |          | F readcardinal3   |       |
| D functions                  |          | F readcardinal3le |       |
| F localize                   |          | F readcardinal4   |       |
| F new                        |          | F readchar        |       |
| F nodeprocessor              |          | F readfixed2      |       |
| F prependaction              |          | F readfixed4      |       |
| F prependgroup               |          | F readinteger     |       |
| F removeaction               |          | F readinteger1    |       |
| F replaceaction              |          | F readinteger2    |       |
| F setkind                    |          | F readinteger2le  |       |
| F toString                   |          | F readinteger3    |       |
| <b>setters</b>               | table    | F readinteger3le  |       |
| F disable                    |          | F readinteger4    |       |
| F enable                     |          | F readinteger4le  |       |
| F initialize                 |          | F readsignedbyte  |       |

|                      |                        |
|----------------------|------------------------|
| F readstring         | U retain and collapse  |
| F setposition        | U retain and no empty  |
| F size               | F striplines           |
| F skip               | F striplong            |
| F skipbytes          | F tabtospace           |
| F skiplong           | T tracers              |
| F skipshort          | <b>tables</b> table    |
| <b>strings</b> table | F accesstable          |
| F collapsecrLf       | F definedtable         |
| T formatters         | F definetable          |
| F add                | F encapsulate          |
| F new                | F insertaftervalue     |
| F newcollector       | F insertbeforevalue    |
| F newrepeater        | F migratetable         |
| F nice               | F removevalue          |
| T striplinepatterns  | F replacevalue         |
| U collapse           | <b>templates</b> table |
| U prune              | F load                 |
| U prune and collapse | F replace              |
| U prune and no empty | F replacer             |
| U retain             | F resolve              |

## vf (context)

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

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



## visualizers (context)

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

# xml (context)

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

## finalizers

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

## table

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

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

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

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

## zip (extra lua)

|                     |                     |                        |          |
|---------------------|---------------------|------------------------|----------|
| <b>archives</b>     | table               | <b>openarchive</b>     | function |
| <b>close</b>        | function            | <b>openfile</b>        | function |
| <b>closearchive</b> | function            | <b>registeredfiles</b> | table    |
| <b>open</b>         | overloaded function | <b>type</b>            | function |

## zlib (extra lua)

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

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