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

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

# global (alias: \_G)

LUAVEDCTON		£21.	4-61-
_LUAVERSION	number	file	table
_MAJORVERSION	number	floats	table
_MINORVERSION	number	font	table
arg .	table	fontloader	table
assert	function	fonts	table
attributes	table	format_n	function
backends	table	frozen	boolean
beginpage	function	functions	table
bibtex	table	getmetatable	function
bit32	table	getreadfilename	function
blobs	table	global	table
boolean	table	graphics	table
buffers	table	gzip	table
builders	table	img	table
caches	table	inspect	function
callback	table	interactions	table
callbacks	table	interfaces	table
catcodes	table	io	table
characters	table	ipairs	function
chemistry	table	job	table
collectgarbage	function	lang	table
commands	table	languages	table
containers	table	layouts	table
context	function	lfs	table
converters	table	libraries	table
coroutine	table	lmx	table
ctxrunner	table	lmxconvert	function
debug	table	lmxnew	function
delta	number	load	function
dimen	function	loadfile	function
dir	table	loadstring	function
directives	table	logs	table
document	table	lp_fastpos_n	userdata
documentdata	table	lp_fastpos_p	userdata
dofile	function	lpdf	table
endpage	function	lpeg	table
environment	table	ltn12	table
epdf	table	lua	table
error	function	luatex	table
experiments	table	lxml	table
figures	table	math	table

mathematics table table mhox md5 table table metapost mime table module function moduledata table modules table mplib table newline function next function noads table node table nodes table table number optionalrequire function table outputpagestree function table package pagebuilders table function pairs parametersets table userdata pattern function pcall pdf table pdfscanner table physics table function print table profiler protect function rawequal function function rawget rawlen function rawset function regimes table report characters function require function resolve fences function resolvers table scripts table select function table set setcharacteralign function setinspector function

setmetatable function table socket sorters table statistics table status table storage table table streams table string stripmath function structures table swialib function table table tex table texconfig table texio table thirddata table toboolean function token table table tokens tonumber function tostrina function trace characters boolean traceback function tracers table trackers table type function typesetters table unicode table function unpack url table userdata table utf table utilities table table visualizers table xml table xmlconvert function xpcall function zip table zlib table

## attributes (context)

<pre>colorintents table</pre>	F mpoptions	
N attribute	U none	
D data	F popset	
F enable	F processcolor	components
F handler	F pushset	
F register	F register	
D registered	D registered	
colors table	F registerspot	color
N attribute	F rgb	
F cmyk	F rgbtocmyk	
F cmyktogray	F rgbtogray	
F cmyktorgb	F rgbtohsv	
F colorcomponents	N selector	
B couple	F setlist	
D data	F setmodel	
N default	D sets	
F defineintermediatecolor	F spec	
F definemixcolor	F spot	
F definemultitonecolor	F spotcolornam	e
F defineprocesscolor	F spotcolorpar	ent
F definesimplegray	F spotcolorval	ıe
F definespotcolor	B supported	
F definetransparency	F transparency	components
F enable	B triggering	
F filter	F usecolors	
F forcedmodel	F value	
F forcesupport	D values	
F formatcolor	B weightgray	
F formatgray	define	function
F gray	effects	table
F graytohsv	N attribute	
F handler	D data	
F hsvtogray	F enable	
F hsvtorgb	F handler	
F iccprofile	F register	
F isblack	D registered	
N main	D values	
S model	handlers	table
D models	list	data table
F mpcolor	names	data table
F mpnamedcolor	negatives	table

N attribute
D data
F enable
F handler
F register

D registered

numbers data table
ofnode function
private function
showcurrent function

**states** table

F disabletriggering
F enabletriggering

F finalize

F initialize F process

F selective

F stacked F stacker

#### transparencies table

N attribute

D data

F enable

F forcesupport

F handler

U none

F register

D registered

B supported

B triggering

F value

D values

unsetvalue number
viewerlayers table

N attribute

D data

F define

F enable

F forcesupport

F handler

B hasorder

D listwise

F register

D registered

F resolve\_begin

F resolve\_end

F resolve\_step

D scopes

F setfeatures

F start

F stop

B supported

D values

#### backends (context)

F registerdocumentcloseaction

codeinjections table F registerdocumentopenaction F synchronizecolormodel F registeredsymbol current strina F registerpagecloseaction table defaults F registerpageopenaction T codeinjections F registersymbol T nodeiniections F setfieldcalculationset T registrations F setfigurealternative D tables F setfigurecolorspace install function F setfiguremask nodeinjections table F setformat F setformsmethod F restore F save F setpagetransition F transform F setupcanvas function nothina F setupidentity pdf table F setxmpfile T codeinjections F startlayer F addbookmarks F stoplayer F attachmentid F supportedformats F clonefield F useviewerlaver F definefield F validfield E definefieldset F validfieldcategory F defineviewerlaver F validfieldset F embedfile S comment F enabletags T nodeinjections F exportformdata F addtags F finalizepage F attachfile F finishreference F changestackedlayer F getdefaultfieldvalue F cmykcolor F getfieldcategory F comment F getfieldset F destination F getformatoption F effect F getoutputfilename F graycolor F getpreviewfigure F injectbitmap F insertrenderingwindow F insertmovie F mergereferences F insertsound F insertswf F mergeviewerlayers F prerollreference F insertu3d F knockout F presetsymbol F presetsymbollist F negative F processrendering F overprint

F positive

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

registrations table
tables table

#### bibtex (context)

#### authorref function table authors F concat F inverted F invertedshort F normal F normalshort F setsettings F short authoryearref function authoryearsref function function convert hacks table F add F doifalreadyplaced F filterall F flush F nofregistered F process F register F registerplaced F reset F resolve load function function new singularorplural function statistics table N nofbytes N nofdefinitions N nofshortcuts

function

toxml

## bit32 (basic lua)

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

## blobs (context)

append	function
dimensions	function
dispose	function
new	function
pack	function
strdp	function
strhd	function
strht	function
strwd	function
tohpack	function
tohpackfast	function
tonodes	function
tovpack	function
tovpackfast	function
write	function

## boolean (context)

tocontext function
tonumber function

#### buffers (context)

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

F define

F hassomecontent

F next
F place
F reset
F save

prepend function
raw function

#### builders (context)

#### kernel table F hyphenation F kernina F ligaturing F mlist\_to\_hlist paragraphs table T constructors N attribute F define F disable F enable F handler T methods F default F oneline D names D numbers F set F start F stop F keeptogether F registertogether T solutions T splitters F define F optimize T registered F reset F set F split F start F stop F tag 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

#### caches (context)

ask	boolean
base	string
collapsecontent	function
configfiles	function
contentstate	function
defaults	table
define	function
direct	boolean
force	boolean
getfirstreadablefile	function
${\tt getfirstreadablefile\_TEST\_ME\_FIRST}$	function
getreadablepaths	function
getwritablepath	function
hashed	function
is_writable	function
loadcontent	function
loaddata	function
more	string
relocate	boolean
savecontent	function
savedata	function
setfirstwritablefile	function
setluanames	function
tree	string
treehash	function
usedpaths	function

#### callback (basic tex)

find function
list function

register overloaded function

#### callbacks (context)

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

#### catcodes (context)

names data table
numbers data table
register function

#### characters (context)

activeoffset	number
adobename	function
bidi	data table
blockrange	function
blocks	data table
casemap	table
categories	data table
category	function
categorytags	data table
combined	data table
contextname	function
data	data table
decomposed	data table
define	function
description	function
descriptions	data table
directions	table
enccodes	data table
entities	data table
fallbacks	data table
filters	data table
fromnumber	function
fschars	data table
fscodes	data table
getrange	function
graphemes	data table
hangul	data table
initialize	function
is_character	data table
is_command	data table
is_letter	data table
is_mark	data table
is_spacing	data table
lcchars	data table
lccode	function
lccodes	data table
lettered	function
lower	function
math	table
mathpairs	data table
mirrors	table

otfscripts	data table
ranges	data table
registerentities	function
remap_hangul_syllabe	function
safechar	function
setcodes	function
shape	function
shaped	function
shchars	data table
shcodes	data table
showstring	function
specialchars	data table
specials	data table
subscripts	table
superscripts	table
synonyms	data table
tex	table
D accentmapping	

F defineaccents

F toutf

textclasses tonumber ucchars uccode uccodes unicodechar upper

table function data table function data table function function

#### chemistry (context)

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

# commands (context)

Al mhahatá a	£		£
Alphabetic	function	autonextspace	function
Character	function	autonextstructurelevel 	function
Characters MPc	function	autosetups	function
•	function	autostarttext	function
MPd	function	autostoptext	function
MPh	function	averagecharwidth 	function
MPll	function	bcolumn 	function
MPlr	function	boolcase	function
MPls	function	character	function
MPn	function	characters	function
MPp	function	chardescription	function
MPpardata	function	checkcharactersinfont	function
MPplus	function	checkcountersetup	function
MPpos	function	checkedconversion	function
MPposset	function	checkedpagefloat	function
MPr	function	checktwopassdata	function
MPrest	function	chemicalcomponent	function
MPrs	function	chineseallnumerals	function
MPul	function	chinesecapnumerals	function
MPur	function	chinesenumerals	function
MPw	function	cleanfontname	function
MPx	function	cleanupbox	function
MPxy	function	cleanuplayers	function
MPxywhd	function	clonefield	function
MPy	function	collectfloat	function
Romannumerals	function	collecthelp	function
abjadnodotnumerals	function	colorcomponents	function
abjadnumerals	function	concatcommalist	function
addcounter	function	consultfloat	function
addlinklistelement	function	copyposition	function
addtojavascriptpreamble	function	cos	function
addtolist	function	cosd	function
allinputpaths	function	countervalue	function
alphabetic	function	counttwopassdata	function
analysefloatmethod	function	currentcomponent	function
analyzelist	function	currentdate	function
applytochars	function	currentenvironment	function
applytofirstcharacter	function	currentproduct	function
applytowords	function	currentproject	function
assignbuffer	function	currentreferencedefault	function
autofinishstructurelevels	function	currentreferenceorder	function

currentregime	function	defineviewerlayer	function
currentsectiontolist	function	defrostrandomseed	function
datasetvariable	function	digits	function
dayname	function	disableautofontscript	function
defineattribute	function	disableparbuilder	function
definebibtexsession	function	disableregime	function
definebreakpoint	function	disablespellchecking	function
definebreakpoints	function	discardfromlist	function
definecharacterspacing	function	doanalyzeframedbox	function
definechemical	function	doif	function
defineconversion	function	doifblackelse	function
definecounter	function	doifcommonelse	function
definedviewerlayer	function	doifcounter	function
definefallbackfamily	function	doifdimenstringelse	function
definefield	function	doifdrawingblackelse	function
definefieldset	function	doifelse	function
definefilefallback	function	doifelsebuffer	function
definefilesynonym	function	doifelsecontinuewithfile	function
definefont_one	function	doifelsecounter	function
definefont_two	function	doifelsecurrentfonthasfeature	function
definefontfamily	function	doifelseintwopassdata	function
definefontfeature	function	doifelsemarking	function
definefontsolution	function	doifelsemessage	function
defineinsertion	function	doifelsemultipar	function
defineintermediatecolor	function	doifelseparallel	function
definelabels	function	doifelsepositionsused	function
definelanguage	function	doifelserangeonpage	function
definelinkedlist	function	doifelsereference	function
definemarking	function	doifelsesavedfloat	function
definemetafont	function	doifelsespaces	function
definemultitonecolor	function	doifelseutfmathabove	function
definenote	function	doifelseutfmathaccent	function
defineparallel	function	doifelseutfmathbelow	function
defineparbuilder	function	doifelsevisualizer	function
defineprocesscolor	function	doiffieldcategoryelse	function
defineprogram	function	doiffieldelse	function
definereference	function	doiffieldsetelse	function
definesectionlevels	function	doiffiledefinedelse	function
defineselectfont	function	doiffileexistelse	function
definespotcolor	function	doiffirstcharelse	function
definestructureblock	function	doifinputfileelse	function
definestructureset	function	doifinsetelse	function
definetransparency	function	doifleapyearelse	function
definetwopasslist	function	doiflisthasentry	function

doiflisthasnumberelse	function	fetchallmarks	function
doiflisthaspageelse	function	fetchmultipar	function
doiflisthastitleelse	function	fetchmultishape	function
doiflocfileelse	function	fetchonemark	function
doifnot	function		function
doifnotcounter	function	fetchposboxes fetchtwomarks	function
doifnotecontent	function		
	function	figurefilename	function
doifnoteonsamepageasprevious		figurefilepath	function
doifobjectreferencefoundelse doifolderversionelse	function	figurefiletype	function
	function	figurerequest	function
doifoverlappingelse	function	figurestatus	function
doifparentfileelse	function	figureused	function
doifposition	function	figurevariable	function
doifpositionelse	function	filterdefaultreference	function
doifpositiononpage	function	filterreference	function
doifpositionsonsamepageelse	function	finalizebox	function
doifpositionsonthispageelse	function	findtwopassdata	function
doifurldefinedelse	function	firstcountervalue	function
doprocesstypescriptfile	function	firstinset	function
doreshapeframedbox	function	flushfloat	function
dostarttextfile	function	flushnotes	function
dostoptextfile	function	flushpostponedblocks	function
ecolumn	function	flushpostponednotes	function
elapsedtime	function	fontchar	function
enableautofontscript	function	fontcollectionclone	function
enablecolor	function	fontcollectiondefine	function
enablecolorintents	function	fontcollectionprepare	function
enablefontcolorschemes	function	fontcollectionregister	function
enableparbuilder	function	fontcollectionreport	function
enableregime	function	fontcollectionreset	function
enablespellchecking	function	fontlookupgetkey	function
enabletransparency	function	fontlookupgetkeyofindex	function
enhancelinkedlist	function	fontlookupinitialize	function
enhancelist	function	fontlookupnoffound	function
enhancereference	function	forceendjob	function
erasebuffer	function	forcequitjob	function
expandcurrentreference	function	format	function
exportformdata	function	formatcolor	function
exportreferences	function	formatgray	function
extensiblecode	function	freezerandomseed	function
feature	function	from	function
featureattribute	function	getbidimode	function
featurelist	function	getbuffer	function
feedback	function	getbufferctxlua	function

getbuffermkvi	function	initializetexdirectives	function
getcommandline	function	initializetextrackers	function
getctxfile	function	injectcurrentreference	function
getcurrentprefixspec	function	injectreference	function
getcurrentreferencemetadata	function	inlinechemical	function
getdefaultfieldvalue	function	insertattachment	function
getfieldcategory	function	insertcomment	function
getfirstcharacter	function	insertfield	function
getfirsttwopassdata	function	insertionnumber	function
getfloatvariable	function	insertrenderingwindow	function
getinternalreference	function	insertsoundclip	function
getlasttwopassdata	function	installedlanguages	function
getmarking	function	installtexdirective	function
getmessage	function	installtextracker	function
getmpextensions	function	languagenumber	function
getnotestate	function	lastcountervalue	function
getplaceholderchar	function	lchexnumber	function
getprivateattribute	function	lchexnumbers	function
getprivatechar	function	leapyear	function
getprogram	function	linenumbersstageone	function
getrandomcounta	function	linenumbersstagetwo	function
getrandomcountb	function	listgroupindex	function
getrandomseed	function	listlabel	function
getreadfilename	function	listlocation	function
getsubstring	function	listprefixednumber	function
gettexbuffer	function	listprefixedpage	function
gettwopassdata	function	listrealpage	function
gettwopassdatalist	function	listsize	function
geturl	function	listtitle	function
grabbuffer	function	listuserdata	function
hboxtovbox	function	loadexamodes	function
helpaction	function	loadfontgoodies	function
helpreference	function	loadspellchecklist	function
hexstringtonumber	function	loadtypescriptfile	function
horizontalcode	function	loadvisualizer	function
hour	function	locatefilepath	function
hyphenatedlist	function	locfilename	function
hyphenatedurl	function	makeactive	function
D characters		markfonts	function
N lefthyphenmin		markregionbox	function
D mapping		math_frac	function
N righthyphenmin		mathrenderset	function
F setcharacters	_	maxitemwidth	function
incrementedcounter	function	minute	function

mixcleanup	function	pdfstartmirroring	function
mixfinalize	function	pdfstartrotation	function
mixflushlist	function	pdfstartscaling	function
mixflushrest	function	pdfstopmatrix	function
mixgetsplit	function	pdfstopmirroring	function
mixsetsplit	function	pdfstoprotation	function
mixstate	function	pdfstopscaling	function
molecule	function	percentageof	function
month	function	pgfxcolorspec	function
monthmnem	function	placeparallel	function
monthname	function	popfloat	function
mpcolor	function	popitaliccorrection	function
mpoptions	function	poplist	function
mprunvar	function	popreferenceprefix	function
namedstructureuservariable	function	popregime	function
namedstructurevariable	function	popsectionblock	function
nbfs	function	pos	function
nextcountervalue	function	posplus	function
nextparallel	function	posstrut	function
nofdays	function	postponenotes	function
nofitems	function	poswhd	function
nofstackedfloats	function	posxy	function
notedeltapage	function	prepareMPvariable	function
notelistindex	function	preparebibtexsession	function
notenumberpage	function	preparedfile	function
noteprefixednumber	function	presetsymbollist	function
notesymbolpage	function	presettabulate	function
notetitle	function	prevcountervalue	function
ntimes	function	processbuffer	function
number	function	processcolorcomponents	function
numbers	function	processedfile	function
objectnumber	function	processedfiles	function
objectpage	function	processfile	function
octnumber	function	processfilemany	function
octstringtonumber	function	processfilenone	function
ordinal	function	processfileonce	function
overloadbookmark	function	processlist	function
<pre>page_injections_flush_after</pre>	function	processsplit	function
<pre>page_injections_flush_before</pre>	function	pushfloat	function
<pre>page_injections_save</pre>	function	pushitaliccorrection	function
pagestaterealpage	function	pushlist	function
parpos	function	pushreferenceprefix	function
pdfrotation	function	pushregime	function
pdfstartmatrix	function	pushsectionblock	function

rawcharacter	function	resettimer	function
rawcountervalue	function	restartcounter	function
rawdate	function	restorecounter	function
referencepagestate	function	restorecurrentattributes	function
referencerealpage	function	restorenote	function
registerattachment	function	romannumerals	function
registerbibtexentry	function	runbuffer	function
registerbibtexfile	function	safechar	function
registerbookmark	function	savebuffer	function
registerbuttons	function	savecounter	function
registercolor	function	savecurrentattributes	function
registercolorintent	function	savedlistnumber	function
registeredviewerlayer	function	savedlistprefixednumber	function
registerhelp	function	savedlisttitle	function
registeritemgroup	function	savefloat	function
registerlanguagefeatures	function	savenote	function
registerlinenumbering	function	saveobject	function
registermaintextcolor	function	saveparallel	function
registernamespace	function	savestructureblock	function
registerpostponedblock	function	savetaggedtwopassdata	function
registerrendering	function	savetwopassdata	function
registersoundclip	function	second	function
registerstructureprocessor	function	selectstructureblock	function
registertransparency	function	setbreakpoints	function
registerunit	function	setcharacteralign	function
relatemarking	function	setcharactercasing	function
remapentity	function	setcharactercleaning	function
removemissingcharacters	function	setcharacterkerning	function
renderingvar	function	setcharacterspacing	function
replacemissingcharacters	function	setcharacterstripping	function
replacepospxywhd	function	setclosedocumentaction	function
resavefloat	function	setclosepageaction	function
resetcharacteralign	function	setcolormodel	function
resetcounter	function	setcounter	function
resetfontfeature	function	setdataset	function
resetfontsolution	function	setdigitsmanipulation	function
resetmarking	function	setdirection	function
resetmathattributes	function	setdocumentenvironments	function
resetmathitalics	function	setdocumentfilenames	function
resetnullfont	function	setdocumentmodes	function
resetparallel	function	setdocumentmodules	function
resetprevdepth	function	setfigurelookuporder	function
resetreference	function	setfirstline	function
resetstructureprocessor	function	setfontfeature	function

setfontofid	function	settagfigure	function
setfontsolution	function	settaghighlight	function
setformat	function	settagitemgroup	function
setformsmethod	function	settagproperty	function
setinitial	function	settagsorting	function
setinsertionlocation	function	settagsynonym	function
setinterfaceconstant	function	settagtablecell	function
setinterfaceelement	function	settagtabulatecell	function
setinterfacemessage	function	setupbookmarks	function
setinterfacemessages	function	setupcanvas	function
setinterfacevariable	function	setupcharacterspacing	function
setinternalreference	function	setupexport	function
setlanguageexceptions	function	setupfontexpansion	function
setlanguagesynonym	function	setupfontprotrusion	function
setlayer	function	setupidentity	function
setmarking	function	setupinsertion	function
setmathalphabet	function	setupitaliccorrection	function
setmathalternate	function	setuplinenumbering	function
setmathattribute	function	setvisual	function
setmathdirection	function	setxmpfile	function
setmathitalics	function	showassignerror	function
setmathstyle	function	showattributes	function
setnextinternalreference	function	showcallbacks	function
setnotestate	function	showchardata	function
setnotesymbolpage	function	showcounter	function
setobject	function	showfontparameters	function
setopendocumentaction	function	showhyphenatedinlist	function
setopenpageaction	function	showjustification	function
setowncounter	function	showmessage	function
setpagestate	function	sin	function
setpagestaterealpageno	function	sind	function
setpagetransition	function	splitfilename	function
setparbuilder	function	spotcolorname	function
setpos	function	spotcolorparent	function
setrandomseed	function	spotcolorvalue	function
setrealign	function	startchemical	function
setreferencearguments	function	startcolorset	function
setreferenceattribute	function	startcomponent	function
setreferenceoperation	function	startenvironment	function
setsectionblock	function	startfontsolution	function
setstructureblockstate	function	startparbuilder	function
settagcombination	function	startproduct	function
settagdescription	function	startproject	function
settagdescriptionsymbol	function	startregime	function

startsectionlevel	function	triggernegative	function
starttag	function	truefilename	function
starttext	function	typebuffer	function
startviewerlayer	function	typefile	function
stopchemical	function	typestring	function
stopcolorset	function	uchexnumber	function
stopcomponent	function	uchexnumbers	function
stopenvironment	function	undefinechemical	function
stopfontsolution	function	unicodechar	function
stopparbuilder	function	unit	function
stopproduct	function	unloadlanguage	function
stopproject	function	useMPlibrary	function
stopregime	function	useanyfile	function
stopsectionlevel	function	usecldfile	function
stoptag	function	usecolors	function
stoptext	function	usecomponent	function
stopviewerlayer	function	useenvironment	function
storejavascriptcode	function	usefile	function
storejavascriptpreamble	function	usejavascriptpreamble	function
storenote	function	usejavascriptscripts	function
strdp	function	uselibrary	function
strhd	function	useluafile	function
strht	function	useluamodule	function
structureautocatcodedget	function	usemodules	function
structurecatcodedget	function	usepath	function
structuregivencatcodedget	function	useproduct	function
structurenumber	function	useproject	function
structuretitle	function	usesubpath	function
structureuservariable	function	usesymbols	function
structurevariable	function	usetexfile -	function
strwd	function	useurl	function
subcountervalues	function	usexmlfile	function
synchronizecolormodel	function	usezipfile	function
synchronizemarking	function function	utfchar utfmathclass	function function
taggedmathfunction			
tan	function	utfmathcommand	function
tand	function	utfmathcommandabove	function
testcase textime	function function	utfmathcommandbelow utfmathfiller	function
thefirstcharacter		utfmathfiller utfmathstretch	function
	function		function
theremainingcharacters thetexdefinition	function function	vboxlisttohbox verbose	function function
	function	verbose visual	function
transparencycomponents	function		function
triggereffect	TUILCETON	vspacing	Tunction

vspacingcollapse	function
vspacingdefine	function
vspacingsetamount	function
vspacingsnap	function
way	function
weekday	function
weekdayname	function
writestatus	function
x_table_c	function
x_table_cleanup	function
x_table_construct	function
x_table_create	function
x_table_flush	function
x_table_init_construct	function
x_table_init_reflow_height	function
x_table_init_reflow_width	function
x_table_next_row	function
x_table_r	function
x_table_reflow_height	function
x_table_reflow_width	function
x_table_set_construct	function
x_table_set_reflow_height	function
x_table_set_reflow_width	function
year	function

## containers (context)

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

#### converters (context)

Alphabetic	function	verbose	table
Character	function	D data	
Characters	function	F translate	
Romannumerals	function	weekday	function
abjadnodotnumerals	function	year	function
abjadnumerals	function		
alphabetic	function		
character	function		
characters	function		
chineseallnumerals	function		
chinesecapnumerals	function		
chinesenumerals	function		
chr	function		
chrs	function		
convert	function		
define	function		
hexstringtonumber	function		
hour	function		
isleapyear	function		
lchexnumber	function		
lchexnumbers	function		
leapyear	function		
maxchrs	function		
minute	function		
month	function		
nofdays	function		
number	function		
numbers	function		
octnumber	function		
octstringtonumber	function		
ordinal	function		
rawcharacter	function		
romannumerals	function		
second	function		
sequences	data table		
textime	function		
toabjad	function		
tochinese	function		
toroman	function		
uchexnumber	function		
uchexnumbers	function		

# coroutine (basic lua)

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

#### ctxrunner (context)

load function
prepfiles data table
resolve function

# debug (basic lua)

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

# dir (context)

collectpattern	function
current	function
expandname	function
found	function
glob	function
globfiles	function
globpattern	function
ls	function
makedirs	function
mkdirs	function
pop	function
push	function

#### directives (context)

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

#### document (context)

arguments data table
files table
getargument function
getfilename function
options table

T commandline

D environments

D modes

D modules

T ctxfile

D environments

D modes

D modules

setargument function
setdefaultargument function
setfilename function
variables data table

### environment (context)

function validengines data table argument arguments data table basicengines data table currentrun number default texmfcnf strina engineflags data table filename strina files table data table filesynonyms function getargument homedir string initex boolean function **initializearguments** initializefilenames function **inputfilebarename** string inputfilename string **inputfilesuffix** string iobfilename string **jobfilesuffix** string kindofrun number loadluafile function luafile function luafilechunk function maxnofruns number originalarguments data table outputfilename string ownbin string ownmain string ownname string ownpath string data table rawarguments reconstructcommandline function relativepath function setargument function **splitarguments** function suffix string texfile function texmfos string texos string texroot string truefilename function

## epdf (extra tex)

Array function
Dict function
Object function
PDFRectangle function
open function
type function

## experiments (context)

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

## figures (context)

applyratio function bases data table function bitmapimage boxnumber number cachepaths data table check function checkers data table data table converters function current defaultdepth number defaultheight number defaultsearch boolean defaultwidth number function done dummy function existers data table exists function formats data table found data table function get auess function hash function identifiers data table function identify include function includers data table initialize function loaded data table localpaths data table magics data table mergegoodies function nofprocessed number order data table paths data table patterns data table function pop preferquality boolean programs data table push function registerpattern function registerresource function

registersuffix resources scale setlookups setorder setpaths suffixes

used

function data table function function function function data table data table

# file (basic lua)

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

# floats (context)

analysemethod	function
${\tt checked page float}$	function
collect	function
consult	function
flush	function
getvariable	function
nofstacked	function
pop	function
push	function
resave	function
save	function
stacked	function

## font (basic tex)

current function define function each function fonts table frozen function getfont overloaded function id function max function nextid function read\_tfm function read\_vf function setfont function

# fontloader (extra tex)

apply_afmfile	function
apply_featurefile	function
close	function
fields	function
fullinfo	function
info	function
open	function
to_table	function
totable	function

# fonts (context)

analyzers	table	F report
T features		F reset
N blwf		T vectors
N fina		<pre>constructors table</pre>
N half		F aftercopyingcharacters
N init		F applymanipulators
N isol		F assignmathparameters
N medi		B autocleanup
N pref		F beforecopyingcharacters
N pstf		D cache
N rphf		F calculatescale
D initializers		F checkedfeatures
D methods		F checkedfilename
F setstate		F checkvirtualids
T states		F cleanuptable
N blwf		F collectprocessors
N fina		D designsizes
N half		D dontembed
N init		F enhanceparameters
N isol		N factor
N mark		F finalize
N medi		F getfeatureaction
N pref		F hashfeatures
N pstf		F hashinstance
N rest		T hashmethods
N rphf		F normal
B useunicodemar		F virtual
checkers	table	F initializefeatures
F getmissing		T keys
F missing	±=61 =	T character
cid	table	S depth
F getmap		S height
F loadfile collections	table	S italic
	table	S width
F checkenabled F clonevector		T description
F define		T boundingbox S depth
T definitions		S height
F prepare		S width
F process		T parameters
F process F registermain		S ascender
i registeriiidili		3 ascender

S descender	S encodingby	/+ac	
S designsize	S filename	, ((3	
T expansion	S finalized		
S auto	S finalized S fontname		
S shrink	S format		
S step	S fullname		
S stretch	S hasitalics		
S extendfactor	S hasmath	•	
S factor	S mathitalio		
S hfactor	S mode	.5	
S mathsize	S name		
		205	
T protrusion S auto	S noglyphnam S nostackmat		
		.n	
S quad	S psname S textitalio		
S scaledpoints	S virtualize		
S scriptpercentage S scriptscriptpercentage	D loadedfonts	eu	
S size	S namemode		
S slantfactor	F newfeatures		
S slantperpoint	F newhandler		
T spacing	N privateoffset		
S extra	·		
S shrink	F readanddefine		
S stretch	F registerfeatu B resolvevirtua		
S width	F scale	1100	
	F scaled		
T synonyms S em	F setfactor		
	F setname		
S ex	N version		
S extra_space S extraspace	current	function	
S slant	currentid	function	
S space	definers	table	
S space_shrink	F addlookup	cabic	
S space_stretch	F analyze		
S spaceshrink	F applypostproc	Accore	
S spacestretch	F checkedmode	633013	
S x_height	F checkedscript		
S units	F current		
S vfactor	S defaultlookup		
S xheight	F define		
T properties	F getspecificat	ion	
S autoitalicamount	F internal		
T cidinfo	F loadfont		
S embedding	F makespecifica	tion	
5 Cimbeduring	i maveshectite	C1011	

T methods F prepare features F install F register D variants F registerpostprocessor F read F report handlers table F register T afm F registered F registersplit B addkerns F resetnullfont B addligatures F resolve B addtexligatures T resolvers B autoprefixed F file D cache F name D features F spec T helpdata definetypeface function D bothkerned encodings table D leftkerned T agl D ligatures D cache D rightkerned F is known D texligatures F load D known F load F setfeatures F make unicode vector B syncspace D math N version N version T otf data table expansions F addfeature formats data table D cache aoodies table T chainhandlers F normal D colorschemes D data F verbose F collectlookups D designsizes D filenames F dataset S defaultbasealternate F getcompositions T list S defaultmodealternate F compositions D enhancers D features F designsizes F getalternate F expansions F featureset T glists F filenames T handlers F files F contextchain F mathematics F devanagari\_remove\_joiners F protrusions F devanagari\_reorder\_matras F solutions F devanagari\_reorder\_pre\_base\_reordering\_consonants F treatments F devanagari\_reorder\_reph F typefaces F gpos context F load F gpos\_contextchain

F gpos_cursive	D dynamics	
F gpos_mark2base	D emwidths	
F gpos_mark2ligature	D exheights	
F gpos_mark2mark	D extensibles	
F gpos_pair	D features	
F gpos_single	D identifiers	
F gsub_alternate	D italics	
F gsub_context	D lastmathids	
F gsub_contextchain	D marks	
F gsub_ligature	D parameters	
F gsub_multiple	T processes	
F gsub_reversecontextchain	D properties	
F gsub_single	D quads	
F load	D resources	
F scriptandlanguage	T setdynamics	
F setcontextchain	D spaces	
F setdynamics	D spacings	
F setfeatures	D unicodes	
T statistics	D xheights	
D usedfeatures	helpers	table
T tables	F addprivate	
D baselines	F dimenfactor	
D features	F expandglyph	
D languages	F fontpatternha	ssize
D scripts	F getdigitwidth	
N version	F getparameters	
T pfb	F getprivatenod	е
T tfm	F hasprivate	
D features	F name	
F setfeatures	F nametoslot	
T vf	F setdigitwidth	
T combinations	F splitfontpatte	ern
F combine	iterators	table
T combiner	F characters	
D commands	F descriptions	
F find	F glyphs	
D helpers	loggers	table
D math	F add_placeholde	ers
D predefined	T category_to_p	laceholder
D whatever	s II	
hashes table	S lm	
D characters	S lo	
D csnames		
	S lt	

S mc		F lua	
S me		F opentype	
S mn		F otf	
S nd		F pfb	
S nl		D sequence	
S no		F tfm	
S pc		F ttc	
S pd		F ttf	
S pe		<b>select</b> t	able
S pf		T data	
S pi		F definetypeface	
S po		T fallbacks	
S ps		F filterinput	
S sc		T methods	
S sk		F default	
S sm		F features	
S so		F file	
F format		F goodies	
F onetimemessage	е	F name	
F register		F selectfont	
F reportdefined	fonts	F simplefonts	
F reportusedfea	tures	F spec	
mappings	table	F style	
F addtounicode		F registerfallback	
F fromunicode16		F searchfiles	
F loadfile		<b>specifiers</b> t	able
F loadline		D contextmerged	
F loadlumtable		F contextnumber	
F makenameparse	r	D contextnumbers	
F reset		D contextsetups	
F tounicode16		F contexttostring	
F tounicodel6se		F definecontext	
mp	table	F mergecontext	
D cache		F presetcontext	
B inline		F registercontext	
N version		F showcontext	
names	data table	F splitcontext	
nulldata	data table	D synonyms	
protrusions	data table	D variants	
readers	table	•	able
Fafm		F uselibrary	
F check_lua			able
F check_tfm			able
F dfont		<b>treatments</b> t	able

- F applyfixes
- D data
- S filename
- F ignoredfile
- F report
- F trace

typefaces data table

# functions (context)

**dummy** function

# graphics (context)

### backgrounds table

F calculatemultipar

F fetchmultipar

F pair

F path

F point

# gzip (extra lua)

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

# img (basic tex)

boxes	function
check	function
checksize	function
clone	function
сору	function
immediatewrite	function
keys	function
new	function
node	function
ofindex	function
package	function
print	function
scan	function
serialize	function
totable	function
types	function
write	function

## interactions (context)

```
attachments data table
fields
               table
   F clone
   F define
   F defineset
   F insert
general
               table
   F getidentity
   F setupidentity
help
               table
   F collect
   F reference
   F register
javascripts table
   F addtopreamble
   F code
   D codes
   F flushpreambles
   D functions
   D preambles
   F setpreamble
   F storecode
   F storepreamble
   F usepreamblenow
   F usescripts
linkedlists data table
               table
pages
   F setpagetransition
   F setupcanvas
references table
   F setclosedocument
   F setclosepage
   F setopendocument
   F setopenpage
              data table
renderings
soundclips data table
```

## interfaces (context)

addvalidkeys function cachedsetups data table cachesetup function checkedspecification function complete data table constants data table corenamespaces data table definecommand function doifelsemessage function elements data table formats data table getcheckedparameters function function getmessage data table hashedsetups interfacedcommand function interfaces table invalidkev function function is command table namespaces

F define F list

registernamespace function setconstant function setelement function setformat function setmessage function function setmessages settranslation function function setuserinterface setvalidkeys function setvariable function function showmessage data table syntax tolist function translations data table variables data table

## io (basic lua)

ask function bytes function characters function close function exists function fileseparator string flush function i limiter function i limiters table

T paranoid

input function limiter function lines function loadchunk function loaddata function loadlines function noflines function function o limiter o limiters table

T paranoid

open overloaded function

output function
pathseparator string

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

# job (context)

comment	function	_	antcolloct	ad
datasets	table		getcollecto getdata	eu
D collected	table		getfield	
F extend			gettobesave	ad
F getdata			inlist	eu
F setdata			last	
D tobesaved			list	
disablesave	function		save	
files	table		save	
D collected	table		tobesaved	
F context			tions	table
B forcerun		-		tabte
F run			b_col	
D tobesaved			b_region c	
initialize	function		collected	
load	function		column	
loadother	function		сору	
objects	table		depth	
D collected	cubic		e_col	
F get			e_cot e_region	
F number			enhance	
F page			extra	
F save			get	
F set			getreserve	4
D tobesaved			hangafter	4
pack	boolean		hangindent	
packversion			height	
pagestates	table		hsize	
D collected	cubic		leftskip	
F extend			lowerleft	
F realpage			lowerright	
F setstate			markregion	nnx
D tobesaved			n	30X
passes	table		onsamepage	
F check			overlapping	1
D collected			p	9
F count			p page	
F define			page	
F find			paragraph	
F first			position	
F get			r	
ı yet		Г	•	

- F region
- F replace
- F rightskip
- F set
- F setall
- F setdim
- D tobesaved
- F upperleft
- F upperright
- F width
- Fx
- F xy
- Fу

structure

register function save function table

- D collected
- T components
- T tobesaved
  - T branches
  - S name
  - S type

#### variables table

- D checksums
- D collected
- F getchecksum
- F makechecksum
- F save
- F setchecksum
- D tobesaved

version number

# lang (basic tex)

clean	function
clear_hyphenation	function
clear_patterns	function
exceptions	function
hyphenate	function
hyphenation	function
id	function
new	function
patterns	function
postexhyphenchar	function
posthyphenchar	function
preexhyphenchar	function
prehyphenchar	function

## languages (context)

associate function associated data table association function counters data table function current data data table define function table frequencies

F averagecharwidth

F getdata

getnumber function
hyphenate function
installed function
labels table

F define F split

lefthyphenmin function loadable function loadwords function logger table

F report

numbers data table posthyphenchar function function prehyphenchar data table registered righthyphenmin function setexceptions function function setsynonym function unload number version words table

> F check T data

F disable

F enable

T enablers

B enables

F found F load

T methods

N threshold

# layouts (context)

### **status** table

F isleftpage

F leftorrightpagection

## lfs (extra lua)

attributes function
chdir function
currentdir function
dir function

isfile function lock function lock dir function mkdir function mkdirs function readlink function rmdir function function setmode function shortname symlinkattributes function touch function unlock function

## libraries (context)

```
basiclua data table
basictex data table
builtin data table
extralua data table
extratex data table
functions data table
globals data table
```

## lmx (context)

color function convert function convertfile function function convertstring einject function eprint function escape function finalized function finject function fprint function get function getvariables function htmfile function html table Fa

F td

include function
inherited table

S color-background-four

S color-background-one

S color-background-three

S color-background-two

S title

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

S color-background-blue

S color-background-body

S color-background-green

S color-background-main

S color-background-purple
S color-background-yellow

S title-default

previous 64 next

## logs (context)

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

> F banner F export

F help

F info

Flines

F version

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

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

# lpdf (context)

injectxmpinfo

action	function	insertxmpinfo	function
adddocumentcolorspace	function	javascript	function
adddocumentextgstate	function	launch	function
adddocumentpattern	function	layerreference	function
adddocumentshade	function	limited	function
addtocatalog	function	linearshade	function
addtoinfo	function	link	function
addtonames	function	null	function
addtopageattributes	function	number	function
addtopageresources	function	pagedestination -	function
addtopagesattributes	function	pagereference	function
addxmpinfo	function	pdfcolor	function
array	function	pdftimestamp	function
boolean	function	protectresources	boolean
checkedkey	function	reference	function
checkedvalue	function	registerannotation	function
circularshade	function	registerdocumentfinalizer	function
cmykcode	function	registerpagefinalizer	function
collectedresources	function	reserveannotation	function
color	function	reserveobject	function
colorspace	function	rgbcode	function
colorspaceconstants	data table	rotationcm	function
colorspec	function	shareobject	function
colorvalue	function	shareobjectreference	function
colorvalues	function	spotcode	function
constant	function	stream	function
delayedobject	function	string	function
dictionary	function	timestamp	function
epdf	table	toeight	function
F expand		tosixteen	function
F load		transparency	function
finalizedocument	function	transparencycode	function
finalizepage	function	transparencygroups	table
finishtransparencycode	function	B none	
flushobject	function	transparencyvalue	function
flushstreamfileobject	function	unicode	function
flushstreamobject	function	verbose	function
formats	data table		
graycode	function		
id	function		

function

## lpeg (basic lua)

В	function
C	function
Carg	function
Cb	function
Cc	function
Cf	function
Cg	function
Cmt	function
Ср	function
Cs	function
Ct	function
P	function
R	function
S	function
UP	function
UR	function
US	function
V	function
afterprefix	function
anywhere	function
append	function
balancer	function
beforesuffix	function
checkedsplit	function
counter	function
endstripper	function
finder	function
firstofsplit	function
frontstripper	function
instringchecker	function
is_lpeg	function
keeper	function
locale	function function
match	
oneof	function
patterns	data table function
print	
replacer	function function
secondofsplit setmaxstack	function
	function
split	i unc c10n

splitat function splitter function stripper function times function tsplitat function tsplitter function type function utfchartabletopattern function version 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)

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

## luatex (context)

cleanuptempfiles function
registerstartactions function
registerstopactions
registertempfile function
starttime number

# lxml (context)

addindex	function	getid	function
all	function	getindex	function
applyfunction	function	id	function
att	function	idsplitter	userdata
attribute	function	include	function
chainattribute	function	index	function
checkindex	function	info	function
collected	function	inlineverbatim	function
command	function	installsetup	function
concat	function	last	function
concatrange	function	load	function
content	function	loadbuffer	function
context	function	loaddata	function
convert	function	loaded	table
count	function	loadregistered	function
delete	function	main	function
direct	function	match	function
directives	table	name	function
F after		namespace	function
F before		nonspace	function
F handle		pos	function
F load		position	function
F setup		raw	function
displayverbatim	function	rawroot	function
doif	function	register	function
doifelse	function	registerentity	function
doifelsetext	function	removesetup	function
doifnot	function	resetcdata	function
doifnottext	function	resetsetups	function
doiftext	function	resolvedentity	function
element	function	root	function
elements	function	serialize	function
entities	data table	setaction	function
filter	function	setcdata	function
filterlist	function	setcommandtonone	function
first	function	setcommandtotext	function
flush	function	setsetup	function
flushlinewise	function	snippet	function
flushsetups	function	sorters	table
flushspacewise	function function	F add	
<del>get_id</del>	<del>Tune LIUII</del>	F compare	

F flush F reset

F show F sort

splitid function startraw function stopraw function store function strip function stripped function tag function text function tofile function toparameters function toverbatim function verbatim function withindex function data table xmltexhandler

# math (basic lua)

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

#### mathematics (context)

addfallbacks	function
alphabets	data table
big	function
boldmap	table
categories	table
D functions	
checkaccentbaseheight	function
checkprivateparameters	function
classes	data table
codes	data table
define	function
dimensions	function
extensiblecode	function
extensibles	data table
extrabase	number
extras	table
F add	
F copy	
fallbacks	table
F apply	
F install	
fallbackstyleattr	function
families	data table
gaps	table
getboth	function
getstyle	function
initializeparameters	function
injectfallbacks	function
makefont	function
mapremap	data table
overloaddimensions	function
overloadparameters	function
privatebase	number
remapalphabets	function
	4-61-

table

function

function

function

renderings

renderset

resetitalics scaleparameters

D mappings
D numbers
D sets

setalternate function setitalics function syncboth function function syncname function syncstyle function toname tostyle function tweakaftercopyingfont function tweakbeforecopyingfont function tweaks table utfmathclass function utfmathcommand function utfmathfiller function utfmathstretch function

### mbox (context)

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

# md5 (extra lua)

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

# metapost (context)

analyzeplugins	function	gettext	function
checkformat	function	graphic	function
checktexts	function	graphic base pass	function
collapse	boolean	instance	function
colorinitializer	function	intermediate	table
convert	function		table
defaultformat	string	T actions	
defaultinstance	3	F makempy	ctrina
defaultmethod	string	lastlog llx	string number
directrun	string function	lly	number
edefsxsy	function	load	function
escaped	function		table
escapeu exectime	table	makempy	table
exectime	data table	N nofconverted	
	function	F processgraphics	table
filterclippath finder	function	metafun	table
flush	function	F interpolate	
flushers	table	F topath method	number
	table		table
T pdf		mptopdf	table
F comment		F convertmpstopdf	
F flushfigure		N nofconverted	haalaan
F startfigure		multipass	boolean number
F stopfigure		n nyformat	
F textfigure flushliteral	function	nvformat optimize	function boolean
	function	•	function
flushnormalpath flushreset	function	parse	function
fonts	table	pdfliterals	function
	table	pluginactions	function
F define		process	function
T flusher		processplugins	function
F flushfigure		quickanddirty	boolean
F startfigure		reducetogray	function
F stopfigure		reporterror	function
N instances		reset	
F process	for the co	resetlastlog	function
format	function	resetplugins	function
format_number	function	resettextexts	function
<pre>format_string formatnumber</pre>	function	setextensions	function
	function	setoutercolor	function
getclippath	function	settext	function
getextensions	function	settextexts	function

showlog boolean
svformat function
tex table

F get F reset

F set boolean texerrors textextsdata function theclippath function totable function unload function untagvariable function urx number ury number variables table

### mime (extra lua)

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

## mplib (extra tex)

fields function
finders table

F file

new function
pen\_info function
preprocessed function
version function

## noads (context)

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

T unscript

### node (basic tex)

сору	function
copy_list	function
count	function
current_attr	function
dimensions	function
do_ligature_n	function
end_of_math	function
family_font	function
fields	function
first_character	function
first_glyph	function
flush_list	function
free	function
getfield	function
has_attribute	function
has_field	function
hpack	function
id	function
insert_after	function
insert_before	function
is_node	function
kerning	function
last_node	function
length	function
ligaturing	function
mlist_to_hlist	function
new	function
next	function
prev	function
protect_glyphs	function
protrusion_skippable	function
remove	function
set_attribute	function
setfield	function
slide	function
subtype	function
tail	function
traverse	function
traverse_id	function
type	function
types	function

unprotect\_glyphs function
unset\_attribute function
usedlist function
vpack function
whatsits function
write function

## nodes (context)

getattribute

function

accentcodes	data table	getbox	function
aligned	function	getchar	function
append	function	getfield	function
astable	function	getfont	function
builders	table	getid	function
F buildpage_filter		getleader	function
F vpack_filter		getlist	function
codes	data table	getnext	function
concat	function	getprev	function
сору	function	getskip	function
copy_list	function	getsubtype	function
count	function	gluecodes	data table
current attr	function	glyphcodes	data table
_ delete	function	glyphdir_is_equal	data table
destinations	table	glyphdir_is_opposite	data table
N attribute		glyphdir_is_orthogonal	data table
T done		gonuts	boolean
F handler		handlers	table
T stack		F accessibility	
dimensionfields	data table	F alignbackgrounds	
dimensions	function	F backgrounds	
dir_is_pop	data table	F characters	
dir_negation	data table	F checkforleaks	
disccodes	data table	F checkglyphs	
discretionarycodes	data table	F cleanupbox	
do_ligature_n	function	F cleanuppage	
end_of_math	function	F export	
endofmath	function	F finalize	
fasthpack	function	F migrate	
fencecodes	data table	F protectglyphs	
fields	function	F stripping	
fillcodes	data table	F unprotectglyphs	
first_character	function	has_attribute	function
first_glyph	function	has_field	function
firstcharacter	function	has_glyph	function
firstcharinbox	function	hpack	function
firstglyph	function	idstostring	function
flush_list	function	ignorablefields	data table
free	function	injections	table
getattr	function	F handler	

F installnewkern

F setcursive		nodecodes
F setkern		nuts
F setmark		F append
F setpair		F concat
insert after	function	F copy
insert before	function	F copy_list
installattributehandler	function	F count
is_display_math	function	F current_attr
is_mirrored	data table	F delete
is_node	function	F dimensions
is_rotated	data table	F do_ligature_n
kerncodes	data table	F end_of_math
kerning	function	F fields
keys	table	F first_character
T whatsit		F first_glyph
last_node	function	F flush_list
leftmarginwidth	function	F free
ligaturing	function	F getattr
lines	table	F getbox
T boxed		F getchar
F register		F getfield
F setup		F getfont
F stage_one		F getid
F stage_two		F getleader
F stage_zero		F getlist
D data		F getnext
F finalize		F getprev
F number		F getskip
N scratchbox		F getsubtype
link	function	F has_attribute
linked	function	F has_field
list	function	F has_glyph
listablefields	data table	F hpack
listcodes	data table	F insert_after
listtoutf	function	F insert_before
load	function	F is_node
locate	function	F kerning
margincodes	data table	F last_node
markers	table	F ligaturing
F get		F linked
mathcodes	data table	F mlist_to_hlist
mlist_to_hlist	function	F new
new 	function	F prepend
noadcodes	data table	F protect_glyphs

data table table

F protrusion_skippable		F baselineskip	
F reference		F cleanup	
F remove		F disc	
F replace		F fontkern	
F set_attribute		F glue	
F setattr		F gluespec	
F setbox		F glyph	
F setfield		F hlist	
F showcodes		F kern	
F slide		F latelua	
F tail		F leftmarginkern	
F tonode		F leftskip	
F tonut		F lineskip	
F tostring		F noad	
F traverse		F pdfannotation	
F traverse_id		F pdfdestination	
F unprotect_glyphs		F pdfdirect	
F unset_attribute		F pdfliteral	
F usedlist		F pdfrestore	
F vianodes		F pdfsave	
F vianuts		F pdfsetmatrix	
F vpack		F penalty	
F writable_spec		F register	
F write		F rightmarginkern	
packlist	function	F rightskip	
pardir_is_equal	data table	F rule	
pardir_is_opposite	data table	F shrink	
pardir_is_parallel	data table	F special	
partextdir_is_equal	data table	F stretch	
penaltycodes	data table	F temp	
plugindata	table	F textdir	
F finalizer		F usage	
F initializer		T userids	
S name		N margins.inline	
T namespace		N splitters.one	
N attribute		N splitters.two	
D data		F userlist	
F enable		F usernumber	
F handler		F userstring	
F register		F usertokens	
D registered		F vlist	
D values		F zeroglue	
F processor		prepend	function
pool	table	print	function

processors	table	showsimplelist	function
B enabled		skipcodes	data table
F hpack_filter		slide	function
F post_linebreak_filter		snapshots	table
F pre_linebreak_filter		F getparameters	
F tracer		F getsamples	
processwords	function	F resetsamples	
protect_glyphs	function	F takesample	
protrusion_skippable	function	somepenalty	function
reference	function	somespace	function
references	table	stripping	table
N attribute		T glyphs	
T done		F set	
F handler		striprange	function
T stack		tail	function
remove	function	tasks	table
repackhlist	function	F actions	
replace	function	F appendaction	
report	function	F disableaction	
rightmarginwidth	function	F disablegroup	
rules	table	F enableaction	
D data		F enablegroup	
F define		F freeze	
F enable		F freezegroup	
F handler		F new	
save	function	F prependaction	
serialize	function	F removeaction	
serializebox	function	F restart	
set_attribute	function	F setaction	
setattr	function	F showactions	
setattribute	function	F table	
setattributes	function	textdir_is_equal	data table
setbox	function	textdir_is_is	data table
setfield	function	textdir_is_opposite	data table
setunsetattributes	function	textdir_is_parallel	data table
shifts	table	tonode	function
D data		tonodes	function
F define		tonut	function
F enable		tosequence	function
F handler		tostring	function
show	function	totable	function
showboxes	function	totree	function
showcodes	function	toutf	function
showlist	function	tracers	table
	. 3		

T characters F hpack F collect F tohpack F equal F tohpackfast F indices F tonodes F start F tovpack F string F tovpackfast F unicodes F vpack function T colors unprotect glyphs F reset unset attribute function F set unsetattribute function unsetattributes function F setlist usedlist function F fontchar vianodes function T frequencies F register vianuts function visualizebox function T pool visualizers table T nodes F rule F box F resetproperties F handler F rule F markfonts F setfont F setlistv F setproperties F setlaver F start F setvisual function T steppers vpack whatcodes data table F check whatsitcodes data table F codes F features writable spec function write function F font F glyphs F message F messages F nofsteps F register F reset F start F stop F stop T transparencies F reset F set F setlist traverse function traverse id function typesetters table F fast hpack

#### number (context)

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

#### os (basic lua)

\_\_getenv function setenv function binsuffix strina **binsuffixes** table clock function converttime function date function difftime function data table env overloaded function exec execute overloaded function exit function fulltime function overloaded function aetenv gettimeofday function isleapyear function launch function libsuffix strina localtime function name string nofdays function function now strina platform function remove function rename resolvers table resultof function runtime function selfdir string seteny overloaded function setlocale overloaded function sleep function overloaded function spawn time function times function timezone function tmpdir function tmpname function function today string type function

uname

uuid function validdate function weekdav function where function which function

# package (basic lua)

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

## pagebuilders (context)

# injections table F flushafter

F flushbefore

F save

#### mixedcolumns table

F cleanup

F finalize

F getlist

F getrest

F getsplit

F setsplit

# pdf (basic tex)

immediateobj	function
mapfile	function
mapline	function
maxobjnum	function
obj	function
objtype	function
pageattributes	string
pageref	function
pageresources	string
pagesattributes	string
pdfmapfile	function
pdfmapline	function
print	function
refobj	function
registerannot	function
reserveobj	function

# pdfscanner (context)

scan function

# physics (context)

units table
 D tables

## profiler (extra lua)

pause function
resume function
start function
stop function

### regimes (context)

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

### resolvers (context)

allprefixes	function	findfile
appendhash	function	findfiles
automount	function	findgivenfile
automounted	table	•
		findgivenfiles
booleanvariable	function 	findpath
cacheversion	string	findtexfile
checkedvariable	function	findwildcardfile
cleanpath	function	findwildcardfiles
cleanpathlist	function	formatofsuffix
concatinators	data table	formatofvariable
configbanner	string	formats
criticalvars	data table	generators
dangerous	data table	getenv
datastate	function	getownpath
defaultsuffixes	table	getreadfilename
dowithfilesandreport	function	hashers
dowithfilesintree	function	homedir
dowithpath	function	inputstack
dowithvariable	function	installinputfilehandler
env	function	installinputlinehandler
		•
executers	table	instance
<b>executers</b> F check	table	instance  D data
	table	
F check	table	D data
F check F exec	table	D data B diskcache
F check F exec F execute	table	D data B diskcache D environment
F check F exec F execute F finalize	table	D data B diskcache D environment D expansions
F check F exec F execute F finalize F popen	table	D data B diskcache D environment D expansions D fakepaths
F check F exec F execute F finalize F popen F register	table function	D data B diskcache D environment D expansions D fakepaths D files
F check F exec F execute F finalize F popen F register F spawn		D data B diskcache D environment D expansions D fakepaths D files B force_suffixes
F check F exec F execute F finalize F popen F register F spawn expandbraces	function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist	function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlistfromvariable expandpath	function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlistfromvariable	function function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed D hashes
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlistfromvariable expandpath	function function function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed D hashes D lists
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlist expandpath expandpath expandpathfromvariable expandpath expandpathfromvariable expansion extendtexmfvariable	function function function function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed D hashes D lists B loaderror
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlist expandpath expandpath expandpathfromvariable expandpathfromvariable expansion	function function function function function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed D hashes D lists B loaderror D order
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlist expandpath expandpath expandpathfromvariable expandpath expandpathfromvariable expansion extendtexmfvariable	function function function function function function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed D hashes D lists B loaderror D order B remember
F check F exec F execute F finalize F popen F register F spawn expandbraces expandedpathfromlist expandedpathlist expandedpathlistfromvariable expandpath expandpath expandpathfromvariable expansion extendtexmfvariable find_file	function function function function function function function function function	D data B diskcache D environment D expansions D fakepaths D files B force_suffixes D found D foundintrees D hashed D hashes D lists B loaderror D order B remember B renewcache

function data table data table function function function data table string table function function table

D specification

data table

**finders** 

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

variableofformatorsuffix function wildcardpattern

function

### scripts (context)

table

autofontfeature

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

## set (context)

contains function
create function
tolist function
tonumber function
totable function

### socket (extra lua)

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

S recei	ved	sinkt	table	
S recei	ved-from-mta	F close-v	when-done	
S refer	ences	F default	t	
S refer	er	F http-ch	nunked	
S remot	e-mta	F keep-open		
S reply	-to	skip	function	
S repor	ting-mta	sleep	function	
S resen	t-bcc	smtp	table	
S resen	t-cc	S DOMAIN		
S resen	t-date	N PORT		
S resen	t-from	S SERVER		
S resent-message-id N TIMEOU		Г		
S resen	t-reply-to	S ZONE		
S resen	t-sender	F message		
S resen	t-to	F open		
S retry	-after	F send		
S retur	n-path	source	function	
S sende	r	sourcet	table	
S serve	r	F by-leng	gth	
S smtp-	remote-recipient	F default		
S statu	s	F http-chunked		
S subje	ct	F until-closed		
S te		tcp	function	
S to		tcp6	function	
S trail	er	tp	table	
S trans	fer-encoding	N TIMEOUT		
S upgra	de	F connect		
S user-	agent	try	function	
S vary		udp	function	
S via		udp6	function	
S warni	ng	url	table	
S will-	retry-until	F absolute		
S www-a	uthenticate	F build		
S x-mai	ler	F build_p	oath	
http	table	F escape		
N PORT		F parse		
N TIMEOUT	Г	F parse_path		
S USERAGE	ENT	F unescap	pe	
F open				
F request				
newtry	function			
protect	function			
select	function			
sink	function			

### sorters (context)

comparers table

F basic

constants table

S defaultdigits

S defaultlanguage

S defaultmethod

N digitsmaximum

N digitsoffset

N ignoredoffset

N replacementoffset

definitions data table

firstofsplit function

setlanguage function function sort

splitters table

F utf

strip function tracers data table update function

# statistics (context)

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

# status (basic tex)

list function

### storage (context)

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

## streams (context)

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

# string (basic lua)

autodouble 	function	F %f %f %f %f %f cm
autosingle	function	F %l,
booleanstring	function	F %p
byte	function	F %q,
bytepairs	function	F %s
bytes	function	F %s %s
char	function	F %s %s %s
characterpairs		F %s %s %s %t
characters	function	F %s %s %s
checkedsplit	function	F %s Tc %s w %s Tr
collapsespaces	function	F %s mul
count	function	F %s%s%s
dump	function	F %s,
escapedpattern	function	F %s%s
explode	function	F %s->%s->%s
find	function	F %s->%s->%s->%s->%s->%s
format	function	F %s:%s
formatter	function	F %s:%s:%s
formatters	function	F %s=%q
F {%t},		F %s={
F %t (%t)		F %w%l,
F %tcycle		F %w%q,
F %-10s: %s		F %w%s,
F %-15s :		F %w[%l]=%l,
F %-15s : %s		F %w[%l]=%q,
F %-15s >		F %w[%l]=%s,
F %-15s >		F %w[%l]={
F %-15s > %s		F %w[%l]={%, t },
F %-15s > %s		F %w[%l]={},
F %-15s > %s >		F %w[%q]=%l,
F %-15s > %s >		F %w[%q]=%q,
F %-15s > %s > %	S	F %w[%q]=%s,
F %-15s > %s > %		F %w[%q]={
	%.3f k %.3f %.3f %.3f K	F %w[%q]={%, t },
	rg %.3f %.3f %.3f RG	F %w[%q]={},
F %.3f g %.3f G		F %w[%s]=%l,
F %0.1fpt		F %w[%s]=%q,
F %0.8f %0.8f %0	.8f %0.8f	F %w[%s]=%s,
F %U		F %w[%s]={
F %U (%s)		F %w[%s]={%, t },
F %a loaded		F %w[%s]={},

```
F %w{
                                                             S lua
                                                             S tex
F %w{%, t },
F %w{},
                                                             S unichr
F %w},
                                                             S xml
F (%p,%p)
                                                           F plib .b col(%q)
F /%s %s
                                                           F plib .b region(%q)
F /%s << %t >>
                                                           F _plib_.e_col()
F /%s [ %t ]
                                                           F plib .e region(%s)
F /%s cs /%s CS %s SCN %s scn
                                                           F plib .enhance(%q)
F /Tr%s qs
                                                           S preamble
F 1 0 0 0 1 %f %f cm
                                                           S type
F << %t >>
                                                           F a=%1.3f%st=%1.3f
F << /Type /Annot %s /Rect [%0.3f %0.3f %0.3f %0.3f] >>
                                                           F h·%s
F M-H-%H
                                                           F buffer.%s
F M-N-%H
                                                           F c:%s:%s:%s:%s
F MpSh%s
                                                           F c=%1.3f%sm=%1.3f%sy=%1.3f%sk=%1.3f
F Tr%s
                                                           F chem_%s%s(%s,%s,"\chemicaltext{%s}");
F U+%04X:%s
                                                           F chem %s%s(%s,%s,%s,%s,%s);
F [%t]
                                                           F chem %s(%s,%s,"");
F [%q]=
                                                           F chem %s(%s,%s,%s);
F [%a]=%l.
                                                           F chem c%s(%s,%s,"");
                                                           F chem set(%s);
F [%q]=%q,
F [%q]=%s,
                                                           F [%q] = {
                                                           F chem symbol("\chemicalsymbol[equilibrium]{%s}{%s}");
F [%s]=
                                                           F chem symbol("\chemicalsymbol[gives]{%s}{%s}");
                                                           F chem symbol("\chemicalsymbol[mesomeric]{%s}{%s}");
F [%s]=%l,
                                                           F chem_symbol("\chemicaltext{%s}");
F [%s]=%q,
F [%s]=%s,
                                                           F chem trace boundingbox := %l;
F [%s][%s]
                                                           F dup %s mul exch dup %s mul exch %s mul
F \Umathchardef\%s "%X "%X "%X
                                                           F dup %s mul exch dup %s mul exch dup %s mul exch %s mul
F \convertnumber{%s}{%s}
                                                           F e:%s
F \ugdef\%s{\Udelimiter "%X "%X }
                                                           F flushing realpage %s, userpage %s
F \ugdef\%s{\Udelimiter 0 "%X "%X }
                                                           F jobname %a, input %a, result %a
F \ugdef\%s{\Udelimiterover "%X "%X }
                                                           F lang-frg-%s.lua
F \uqdef\%s{\Udelimiterunder "%X "%X }
                                                           F language %a is active
F \ugdef\%s{\Umathaccent 0 "%X "%X }
                                                           F mfun tt w[\%i] := \%f; mfun tt h[\%i] := \%f; mfun tt d[\%i]
F \ugdef\%s{\Umathbotaccent 0 "%X "%X }
                                                           F multilocs[%s] := %s ; multikind[%s] := "%s" ; multipars
F \ugdef\%s{\Uradical "%X "%X }
                                                           F multireqs[%s] := (%--t--cycle) shifted - %s;
F \ugdef\%s{\Uroot "%X "%X }
                                                           F p:%s
F bpnf (%s, %s, %s, '%s')
                                                           F p:%s:%s:%s:%s
                                                           F p=%1.3f
T _extensions_
 S chruni
                                                           F p=%s
 S font:features
                                                           F path multiregs[], multipars[], multibox ; string multik
 S font:name
                                                           F path posboxes[], posregions[]; numeric pospages[]; nu
```

```
totable
                                                                       function
   F pdf: q 1 0 %f 1 0 0 cm
   F pospages[%s] := %s ; posboxes[%s] := (%p,%p)--(%p,%p)--(%p,%p)--(%p,%p)--cyflencthionegions[%s] := (%p,%p)--(%p,%p)
                                                     tracedchar
                                                                       function
   F processed mkvi file %a, delta %s
                                                     tracedchars
                                                                       table
   F q %f %f %f %f %f cm
                                                     unquote
                                                                       function
   F r:%s:%s:%s
   F r=%1.3f%sq=%1.3f%sb=%1.3f
                                                     unquoted
                                                                       function
                                                                       function
                                                     upper
   F region:%s
                                                                       function
   F return {
                                                     utfcharacters
                                                     utfvalues
                                                                       function
   F return {%t}
   F s:%s
                                                     valid
                                                                       function
   F s=%1.3f
   F setbounds currentpicture to multibox;
   F unknown reference %a
   F using file %a
   F visualizers.%s
   F w:%s
   F {
   F }
gmatch
                  function
qsub
                  function
                  function
is boolean
is empty
                  function
itself
                  function
                  function
len
limit
                  function
longtostring
                  function
lower
                  function
                  function
match
nspaces
                  table
                  function
quote
                  function
quoted
                  function
rep
reverse
                  function
split
                  function
splitlines
                  function
splitup
                  function
strip
                  function
                  function
sub
tformat
                  function
toboolean
                  function
tocontext
                  function
todimen
                  function
tonodes
                  function
topattern
                  function
```

## structures (context)

atlocation	function	F setlevel	
blocks	table	F setoffset	
D collected		F setown	
F define		F setstate	
F print		F setvalue	
F save		T specials	
F select		F userpage	
F setstate		F subs	
D states		D tobesaved	
D tobesaved		F value	
bookmarks	table	currentsectionnumber	function
F finalize		descriptions	table
F flatten		documents	table
S method		D data	
F overload		F initialize	
F place		F preset	
F register		F reset	
F setup		floats	table
counters	table	formulas	table
F add		F current	
F analyze		F simplify	
F check		F store	
D collected		helpers	table
F compact		F analyze	
F converted		F formulanumber	
F currentvalue		F merged	
D data		F page	
F define		F prefix	
F first		F prefixlastpage	
F get		F prefixpage	
F last		F simplify	
F next		F title	
F prev		F touserdata	
F previous		inserts	table
F raw		D data	
F record		F define	
F reset		F getdata	
F restart		F getlocation	
F restore		F getname	
F save		F getnumber	
F set		F setlocation	

F setup F userdata D stored F uservalue itemaroups table marks table F maxwidth D data F nofitems F define F exists F register lists table F fetch F addto F fetchallmarks F fetched F analyze B autoreorder F fetchonemark F fetchtwomarks D cached D collected F aet F discard F number F enhance F relate T enhancers F reset F filter F set F filtercollected F show F formulanumber F synchronize F groupindex F title F hasnumberdata T tracers F haspagedata F showtable table F hastitledata notes D internals F checkpagechange F iscached F define F label F doifonsamepageasprevious F location F get Fnumber F getdeltapage D ordered F getn F page F getnumberpage F popnesting F getstate F prefix F getsymbolpage F prefixednumber F hascontent F prefixedpage F internal F internalid F process F listindex D pushed F pushnesting F ordered F realpage F postpone F reordered F resetpostponed T result F restore D sectionblocks F save F sectionnumber F setstate F size F setsymbolpage F title D states D tobesaved F store

pages	table	F injectcurrentset
F analyze		D internals
D collected		F load
F is_odd		F loadpresets
F number		F mark
F save		D pages
D tobesaved		U prefixsplitter
references	table	D productdata
F analyze		T programs
F checkedfile		T data
F checkedfileorurl		F define
F checkedprogram		F get
F checkedrealpage		F realpageofpage
F checkedurl		U referencesplitter
D collected		D referred
U componentsplitter		F referredpage
F currentmetadata		F registerfinalizer
F currentorder		F registerinitializer
D currentset		F registerpage
F define		F reportproblems
D defined		F reset
D derived		T resolvers
F enableinteraction		F reference
F enhance		F section
F enhance D executers		
		F section
D executers		F section D runners
D executers F expandcurrent F export T files		F section D runners F set F setandgetattribute F setcomponent
D executers F expandcurrent F export T files T data		F section D runners F set F setandgetattribute F setcomponent F setinnermethod
D executers F expandcurrent F export T files T data F define		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference
D executers F expandcurrent F export T files T data F define F get		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal
D executers F expandcurrent F export T files T data F define F get F filter		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitreference
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get F get F get F get F get F get		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitreference T testrunners
D executers F expandcurrent F export T files T data F define F get F filter F filters F from F get F getcurrentmetadata F getcurrentprefixspec		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitreference T testrunners F inner
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get F getcurrentmetadata F getcurrentprefixspec F getinnermethod		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitreference T testrunners F inner F special
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get F getcurrentmetadata F getcurrentprefixspec F getinnermethod F getinternalreference		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitreference T testrunners F inner F special F special operation
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get F getcurrentmetadata F getcurrentprefixspec F getinnermethod F getinternalreference D handlers		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitprefix F splitreference T testrunners F inner F special F special operation F special operation
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get F getcurrentmetadata F getcurrentprefixspec F getinnermethod F getinternalreference D handlers F identify		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitreference T testrunners F inner F special F special operation F special operation with arguments T testspecials
D executers F expandcurrent F export T files T data F define F get F filter F filterdefault D filters F from F get F getcurrentmetadata F getcurrentprefixspec F getinnermethod F getinternalreference D handlers		F section D runners F set F setandgetattribute F setcomponent F setinnermethod F setinternalreference F setnextinternal F setnextorder D specials F splitcomponent F splitprefix F splitprefix F splitreference T testrunners F inner F special F special operation F special operation

F internal		E gotourrontlovel	
		F getcurrentlevel	
F page		F getlevel	
F realpage		F getnumber F internalreference	
F section			
F userpage		D levelmap D levels	
D tobereferred			
D tobesaved		F load	
T urls		F matchingtilldepth	
T data F define		F numberatdepth F numbers	
F get F valid		F popblock	
F whatfrom		F prefixedconverted	
	table	F pushblock	
registers	table	F register	
F analyze		D registered	
F analyzed D collected		F reportstructure F save	
F compare		T sectionblockdata	
F define		T bodypart	
F enhance		S bookmark	
F extend		F set	
F filter		F setblock	
F filtercollected		F setchecker	
F finalize		F setlevel	
F flush		F setnumber	
F prepare		F somelevel	
F process		F structuredata	
F sort		F title	
F store		D tobesaved	
D tobesaved		F typesetnumber	
F unique		F userdata	
F userdata		B verbose	
sections	table		able
F autodepth		F define	
F cct		F get	
D collected		F getall	
F current		D setlist	
F currentblock		<b>specials</b> ta	able
F currentid		D collected	
F currentlevel		F retrieve	
F depthnumber		F store	
F finddata		D tobesaved	
F findnumber		<b>synonyms</b> ta	able
F fullnumber		F analyzed	

D collected F compare F define F filter F finalize F flush F meaning F prepare F process F register F registerused F sort F synonym D tobesaved table tags T data F detailedtag F getid F handler D labels F last F lastinchain T metadata D properties F registerdata F registermetadata F restart F setattributehash F setcombination F setdescription F setdescriptionsymbol F setfigure F sethighlight F setitemgroup F setproperty F setsorting F setsynonym F settablecell F settabulatecell F start

F stop
D taglist
T userdata

#### table (basic lua)

allkeys	function
append	function
are_equal	function
autokey	function
compact	function
concat	function
contains	function
сору	function
count	function
derive	function
deserialize	function
drop	function
fastcopy	function
fastserialize	function
flattened	function
fromhash	function
getmetatablekey	function
has_one_entry	function
identical	function
imerge	function
imerged	function
insert	function
is_empty	function
keys	function
load	function
loweredkeys	function
merge	function
merged	function
mirrored	function
pack	function
prepend	function
print	function
remove	function
reverse	function
reversed	function
save	function
sequenced	function
serialize	function
setmetatablecall	function
setmetatableindex	function
setmetatablekey	function

setmetatablenewindex function function sort sorted function sortedhash function sortedhashkeys function sortedkeys function sortedpairs function strip function sub function function swapped function tocontext function tocsv function tofile tohandle function tohash function toxml function twowaymapper function unique function unnest function function unpack

# tex (basic tex)

attribute	table	istoken	function
badness	function	lccode	table
box	table	linebreak	function
catcode	table	lists	table
conditionals	data table	luacatcodes	number
constants	data table	mathcode	table
count	table	modes	data table
ctxcatcodes	number	nest	table
definefont	function	nilcatcodes	number
delcode	table	notcatcodes	number
dimen	table	number	function
directives	data table	pdffontname	function
enableprimitives	function	pdffontobjnum	function
error	function	pdffontsize	function
extraprimitives	function	pdfpageref	function
finish	function	pdfxformname	function
fontidentifier	function	primitives	function
fontname	function	print	function
fprint	function	printlist	function
get	function	prtcatcodes	number
getattribute	function	romannumeral	function
getbox	function	round	function
getcatcode	function	run	function
getcount	function	scale	function
getdelcode	function	set	function
getdimen	function	setattribute	function
getlccode	function	setbox	function
getlist	function	setcatcode	function
getmath	function	setcount	function
getmathcode	function	setdelcode	function
getnest	function	setdimen	function
getsfcode	function	setlccode	function
getskip	function	setlist	function
gettoks	function	setmath	function
getuccode	function	setmathcode	function
hashtokens	function	setnest	function
ifs	data table	setsfcode	function
inicatcodes	number	setskip	function
iscount	function	settoks	function
isdimen	function	setuccode	function
isskip	function	sfcode	table

shipout function skip table sp function sprint function systemmodes data table texcatcodes number toks table tpacatcodes number tpbcatcodes number tprint function trackers data table txtcatcodes number function type table uccode uniformdeviate function uprint function vrbcatcodes number write function

#### texconfig (basic tex)

error\_line number expand\_depth number formatname string half\_error\_line number hash extra number function init kpse\_init boolean max in open number max\_print\_line number max\_strings number nest\_size number param\_size number save size number shell escape string stack size number

## texio (basic tex)

write function
write\_nl function

## token (basic tex)

command_id	function
command_name	function
create	function
csname_id	function
csname_name	function
expand	function
get_next	function
is_activechar	function
is_expandable	function
is_protected	function
lookup	function

#### tokens (context)

```
bgroup
              table
collectors table
   T data
   F defaultwords
   F dowithwords
   F flush
   F handle
   F install
   F register
   T registered
   T remapper
     F convert
    T data
     F store
   F show
   T show_methods
    Fa
    F b
    F c
   F showtoken
   F test
   F trace
egroup
              table
              table
hbox
letter
              function
              function
letters
other
              function
vbox
              table
```

table

vtop

#### tracers (context)

```
count function
cs function
dimen function
knownlist function
lists table
```

T context
T internals
T scratch

name function
primitive function
printerror function
showlines function
strings table

S undefined

toks function
type function

#### trackers (context)

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

# typesetters (context)

alignments	table	F installhandler	
F handler		F processmath	
F set		F set	
breakpoints	table	F setcolor	
F define		F setmath	
F handler		F tomode	
D mapping		firstlines	table
T methods		T actions	
T numbers		F default	
F set		F line	
F setreplacement		F word	
cases	table	F handler	
T actions		F set	
F handler		initials	table
F register		T actions	
F set		F default	
characteralign	table	F handler	
F handler		F set	
F resetcharacter	align	italics	table
F setcharacteral	ign	F forcevariant	
characters	table	F handler	
F handler		F reset	
F replacenbsp		F set	
F replacenbspace	s	kerns	table
checkers	table	D factors	
F handler		F handler	
F reset		F keepligature	
F set		B keeptogether	
cleaners	table	D mapping	
F handler		F set	
F set		margins	table
digits	table	F finalhandler	
T actions		F globalhandler	
F handler		F ha	
F set		F localhandler	
directions	table	F save	
F getfences		processors	table
F getglobal		F apply	
F getmethod		F register	
F handler		F reset	
T handlers		F split	

```
F startapply
   F stopapply
   F stripped
   F tostring
spacings
                    table
   N attribute
   F define
   F handler
   D mapping
   T numbers
     T frenchpunctuation
       T characters
       S name
       N number
   F reset
    F set
    F setup
xtables
                    table
   F cleanup
   F construct
   F create
   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	len
F byte		lower
F char		match
F dump		rep
F find		reverse
F format		sub
F gfind	utf8	upper table
F gmatch		
F gsub F len		byte char
F lower		characters
F match		count
F rep		dump
F reverse		filetype
F sub		find
F upper		format
grapheme		gfind
F byte		gmatch
F char		gsub
F dump		is_valid
F find		len
F format		length
F gfind		lower
F gmatch		magic
F gsub		match
Flen		remapper
Flower		rep
F match		replacer
F rep		reverse
F reverse	F	split
F sub	F	splitlines
F upper	F	sub
latin1	table F	subtituter
F byte	F	tocodes
F char	F	toeight
F dump	F	toentities
F find	F	tostring
F format	F	totable
F gfind	F	upper
F gmatch	F	ustring
F gsub	F	utf16_to_utf8

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

# url (context)

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

## utilities (context)

debugger	table	pars	sers	table
F disable		F add_settings_to_array		
F enable		F arguments_to_table		
F savestats		F array_to_string		
F showstats		F	csvsplitter	
formatters	table	F	getparameters	
F formatcolumns		F	hash_to_string	
F list		F	iterator	
F stripzeros		F	keq_to_hash	
garbagecollector	table	F	listitem	
F check		F	make_settings_to	_hash_pattern
N criterium		F	mergehashes	
B enabled		F	options_to_hash	
lua	table	Т	patterns	
B alwaysstripcode			U settings_to_arm	ay
F compile			U settings_to_has	sh_a
F loadedluacode			U settings_to_has	sh_b
F loadstripped			U settings_to_has	sh_c
N nofstrippedbytes			U unittotex	
N nofstrippedchunks	5	F	process_stripped	_settings
B stripcode		F	rfc4180splitter	
T strippedchunks		F	runtime	
F strippedloadstrin	ng	F	settings_to_arra	y
T suffixes		F	settings_to_arra	y_with_repeat
S lua		F	settings_to_hash	
S luc		F	settings_to_hash	_strict
S lui		F	settings_to_hash	_tolerant
S luj		F	settings_to_set	
S luv		F	simple_hash_to_s	tring
S tma		F	splitthousands	
S tmc		F	stepper	
S tua		F	stripped_setting	s_to_array
S tuc		F	unittotex	
packers	table	F	unittoxml	
F hashed		repo	ort	function
F new		sequ	iencers	table
F pack		F	appendaction	
F simplehashed		F	appendgroup	
F strip		F	compile	
F unpack		F	disableaction	
N version		F	disablegroup	

F enableaction F enablegroup D functions F localize F new F nodeprocessor F prependaction F prependgroup F removeaction F setkind F tostring table setters F disable F enable F initialize F list F new F register F report F reset F show stacker table F new storage table F allocate F checked F mark F marked F setinitializer F sparse strings table F collapsecrlf T formatters F add F new F newrepeater F nice F striplong F tabtospace T tracers tables table F accesstable

F definedtable F definetable

F encapsulate
F insertaftervalue
F insertbeforevalue
F migratetable

#### templates

F removevalue

table

mplates
F load
F replace
F replacer
F resolve

#### vf (context)

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

## visualizers (context)

escapepatterns	data	table	
getvisualizer	function		
load	function		
makenested	function		
makepattern	function		
newgrammar	function		
newhandler	function		
parsedxml	function		
pattern	function		
register	funct	tion	
registerescapecommand	funct	tion	
registerescapeline	funct	tion	
registerescapepattern	function		
signal	string		
signalpattern	userdata		
specifications	data	table	
visualize	function		
visualizebuffer	function		
visualizefile	function		
visualizestring	function		
write	function		
writeargument	function		
writedefault	funct	tion	
writeemptyline	funct	tion	
writenewline	function		
writespace	function		

## xml (context)

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

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

Т

newhandlers function nodesettostring function originalload function package function parent function parsedentitylpeg userdata pihandlers table table placeholders

F unknown\_any\_entity
F unknown\_dec\_entity
F unknown hex entity

function position privatecodes table privatetoken function process function process attributes **function** process elements **function** processattributes function profiled table function raw function registerentity registerns function remap name function function remap namespace function [ ] remap tag function remapname function remapnamespace function remaptag renamespace function function replace replace element function resolvens function root function function save selection function separate function serialize function setcdata function sethandlersfunction function setproperty function settings function specialhandler table sprint function

string

function strip strip whitespace function stripelement function stripleadingspaces function table function text function function textonly texttocdata function tocdata function toelement function tostrina function toxml function tprint function traverse function unescaped function unprivatized function withelement function withelements function function wrap

table

xmlns

function

#### zip (extra lua)

archives table
close function
closearchive function
open function
openarchive function
openfile function
registeredfiles table
type function

#### zlib (extra lua)

adler32 function
compress function
crc32 function
decompress function
decompressobj function
version function