system.find filename.texlive@Posit.Cloud.Rmd

MHKim

June 18, 2024

Contents

```
1
                                                              1
 1
        7
 7
   13
   13
   13
   13
 13
 13
   14
   14
      14
     15
     15
     16
        16
        16
   16
   16
      17
     17
     17
      17
        17
        18
      18
      18
        18
        19
   19
   19
      19
      19
   19
   19
      20
      \% \text{ env1}
env1$info$info_system_info$machine_nodename = "15687d125320" @Rocker
env1\$ info\$ info\_system\_info\$ machine\_nodename = "application-12164735-deployment-22732286-l5pm" @Posit.Clouders and the context of the con
env1$info$info_system_info$Sys.getlocale$LC_COLLATE = "en_US.utf8'
#@@ START
\#\# @ whoami
Cf) Ctrl+Alt+Enter @ Rstudio
```

whoami

```
"whoami" |>
    system(intern = TRUE) |>
    cat("\n")
r149319
```

rstudio@Rocker

r149319@SharedWorkspace@MKim0710@Posit.Cloud r2179046@SharedWorkspace@V@Posit.Cloud

r2179052@SharedWorkspace@MHKim710@Posit.Cloud

echo \$PATH

```
"echo $PATH" |>
    system(intern = TRUE) |>
    cat("\n")
/usr/local/bin:/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/usr/games:/usr/local/games:/snap/bin:/opt/R/4.4.0/lib/R/bi
```

/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/sbin:/usr/local/texlive/bin/linux:/usr/lib/rstudio-server/bin/quarto/bin:/usr/lib/rstudio-server/bin/postback

```
 \textit{\# On Unix-based systems, you can use the fc-list command to list available fonts. This command shows both system fonts } \\
\hbox{\it\# and those managed by fontconfig (including some TeX Live-installed fonts).}
"fc-list : family" |>
    system(intern = TRUE) |>
    sort() |>
    env1$f_vec.dput_line_by_line()
c("Accanthis ADF Std",
  "Accanthis ADF Std No2",
  "Accanthis ADF Std No3",
  "Amiri",
  "Amiri Quran",
  "Amiri Quran Colored",
  "AR PL KaitiM Big5, ",
  "AR PL KaitiM GB, ",
  "AR PL Mingti2L Big5, ",
  "AR PL SungtiL GB, ",
  "Arimo",
  "Asana Math",
  "Baekmuk Batang, ",
  "Baekmuk Dotum, ", "Baekmuk Gulim, ",
  "Baekmuk Headline,
  "Berenis ADF Pro",
  "Berenis ADF Pro Math",
  "Bitstream Charter",
  "C059",
  "Cabin",
  "Caladea",
  "Cantarell",
  "Cantarell, Cantarell Extra Bold",
  "Cantarell, Cantarell Light",
  "Cantarell, Cantarell Thin",
  "Carlito",
  "Century Schoolbook L",
  "Comfortaa",
  "Comfortaa, Comfortaa Light",
  "Courier",
  "Cousine",
  "D050000L",
  "DejaVu Math TeX Gyre",
  "DejaVu Sans",
  "DejaVu Sans Mono",
  "DejaVu Sans, DejaVu Sans Condensed",
  "DejaVu Sans, DejaVu Sans Light",
  "DejaVu Serif",
  "DejaVu Serif, DejaVu Serif Condensed",
  "Dingbats",
  "Droid Sans Fallback",
  "EB Garamond 12 All SC",
  "EB Garamond Initials",
  "EB Garamond Initials Fill1",
  "EB Garamond Initials Fill2",
  "EB Garamond SC,EB Garamond SC 08",
  "EB Garamond SC,EB Garamond SC 12",
  "EB Garamond, EB Garamond 08",
  "EB Garamond, EB Garamond 12",
  "FontAwesome",
  "FoulisGreek",
  "FreeMono",
  "FreeSans",
  "FreeSerif",
  "Garuda",
  "Gentium",
  "Gentium Basic",
  "Gentium Book Basic",
  "Gentium Plus",
  "Gentium Plus Compact",
  "GentiumAlt",
  "GFS Artemisia",
  "GFS Artemisia, GFS Didot",
  "GFS Baskerville",
  "GFS Complutum",
  "GFS Didot",
  "GFS Didot, GFS Didot Rg",
  "GFS Neohellenic, GFS Neohellenic Rg",
  "GFS Olga",
  "GFS Porson",
  "GFS Solomos",
  "Gillius ADF",
  "Gillius ADF No2",
  "Gillius ADF No2, Gillius ADF No2 Cond",
  "Gillius ADF, Gillius ADF Cond",
  "Go",
  "Go Medium",
  "Go Mono",
  "Go Smallcaps",
  "IPAexGothic, IPAex ",
  "IPAexMincho, IPAex ",
```

```
"IPAGothic, IPA ",
"IPAMincho, IPA ",
"IPAPGothic, IPA P ",
"IPAPMincho, IPA P ",
"Junicode",
"Kinnari",
"Laksaman",
"Latin Modern Math",
"Latin Modern Mono Caps, LM Mono Caps 10",
"Latin Modern Mono Light Cond, LM Mono Light Cond 10",
"Latin Modern Mono Light, LM Mono Light 10",
"Latin Modern Mono Prop Light, LM Mono Prop Light 10",
"Latin Modern Mono Prop, LM Mono Prop 10",
"Latin Modern Mono Slanted, LM Mono Slanted 10",
"Latin Modern Mono, LM Mono 10",
"Latin Modern Mono, LM Mono 12",
"Latin Modern Mono, LM Mono 8",
"Latin Modern Mono, LM Mono 9",
"Latin Modern Roman Caps, LM Roman Caps 10",
"Latin Modern Roman Demi, LM Roman Demi 10",
"Latin Modern Roman Dunhill, LM Roman Dunhill 10",
"Latin Modern Roman Slanted, LM Roman Slanted 10",
"Latin Modern Roman Slanted, LM Roman Slanted 12",
"Latin Modern Roman Slanted, LM Roman Slanted 17",
"Latin Modern Roman Slanted, LM Roman Slanted 8",
"Latin Modern Roman Slanted, LM Roman Slanted 9",
"Latin Modern Roman Unslanted, LM Roman Unslanted 10",
"Latin Modern Roman, LM Roman 10",
"Latin Modern Roman, LM Roman 12",
"Latin Modern Roman, LM Roman 17",
"Latin Modern Roman, LM Roman 5",
"Latin Modern Roman, LM Roman 6",
"Latin Modern Roman, LM Roman 7",
"Latin Modern Roman, LM Roman 8",
"Latin Modern Roman, LM Roman 9",
"Latin Modern Sans Demi Cond, LM Sans Demi Cond 10",
"Latin Modern Sans Quotation, LM Sans Quot 8",
"Latin Modern Sans, LM Sans 10",
"Latin Modern Sans, LM Sans 12",
"Latin Modern Sans, LM Sans 17",
"Latin Modern Sans, LM Sans 8",
"Latin Modern Sans, LM Sans 9",
"Lato",
"Lato, Lato Black",
"Lato, Lato Hairline",
"Lato, Lato Heavy",
"Lato, Lato Light"
"Lato, Lato Medium"
"Lato, Lato Semibold",
"Lato, Lato Thin",
"Liberation Mono",
"Liberation Sans",
"Liberation Sans Narrow",
"Liberation Serif",
"Linux Biolinum Keyboard O",
"Linux Biolinum O",
"Linux Libertine Display O",
"Linux Libertine Initials O",
"Linux Libertine Mono O",
"Linux Libertine O",
"Lobster Two",
"Loma",
"NanumBarunGothic,
"NanumGothic, ",
"NanumMyeongjo, ",
"NanumSquare, ",
"NanumSquare, ,NanumSquare Bold, Bold",
"NanumSquareRound,
                      ,NanumSquareRound Bold,
                                                    Bold",
                       ,NanumSquareRound Regular,
"NanumSquareRound,
                                                       Regular",
"Nimbus Mono L",
"Nimbus Mono PS",
"Nimbus Roman",
"Nimbus Roman No9 L",
"Nimbus Sans",
"Nimbus Sans L",
"Nimbus Sans Narrow",
"Norasi",
"Noto Kufi Arabic",
"Noto Mono",
"Noto Music",
"Noto Naskh Arabic",
"Noto Nastaliq Urdu",
"Noto Sans",
"Noto Sans Adlam",
"Noto Sans Adlam Unjoined",
"Noto Sans Anatolian Hieroglyphs, Noto Sans AnatoHiero",
"Noto Sans Arabic",
"Noto Sans Armenian",
"Noto Sans Avestan",
```

```
"Noto Sans Bamum",
"Noto Sans Bassa Vah".
"Noto Sans Batak".
"Noto Sans Bengali"
"Noto Sans Bhaiksuki",
"Noto Sans Brahmi",
"Noto Sans Buginese",
"Noto Sans Buhid",
"Noto Sans Canadian Aboriginal, Noto Sans CanAborig",
"Noto Sans Carian",
"Noto Sans Caucasian Albanian, Noto Sans CaucAlban",
"Noto Sans Chakma".
"Noto Sans Cham",
"Noto Sans Cherokee",
"Noto Sans Coptic",
"Noto Sans Cuneiform",
"Noto Sans Cypriot",
"Noto Sans Deseret",
"Noto Sans Devanagari",
"Noto Sans Display",
"Noto Sans Duployan",
"Noto Sans Egyptian Hieroglyphs, Noto Sans EgyptHiero",
"Noto Sans Elbasan",
"Noto Sans Ethiopic",
"Noto Sans Georgian",
"Noto Sans Glagolitic",
"Noto Sans Gothic",
"Noto Sans Grantha",
"Noto Sans Gujarati",
"Noto Sans Gurmukhi",
"Noto Sans Hanifi Rohingya, Noto Sans HanifiRohg",
"Noto Sans Hanunoo",
"Noto Sans Hatran",
"Noto Sans Hebrew",
"Noto Sans Imperial Aramaic, Noto Sans ImpAramaic",
"Noto Sans Indic Siyaq Numbers",
"Noto Sans Inscriptional Pahlavi, Noto Sans InsPahlavi",
"Noto Sans Inscriptional Parthian, Noto Sans InsParthi",
"Noto Sans Javanese",
"Noto Sans Kaithi",
"Noto Sans Kannada"
"Noto Sans Kayah Li",
"Noto Sans Kharoshthi",
"Noto Sans Khmer",
"Noto Sans Khojki"
"Noto Sans Khudawadi",
"Noto Sans Lao",
"Noto Sans Lepcha",
"Noto Sans Limbu",
"Noto Sans Linear A",
"Noto Sans Linear B",
"Noto Sans Lisu",
"Noto Sans Lycian",
"Noto Sans Lydian",
"Noto Sans Mahajani",
"Noto Sans Malayalam",
"Noto Sans Mandaic",
"Noto Sans Manichaean",
"Noto Sans Marchen",
"Noto Sans Math",
"Noto Sans Mayan Numerals",
"Noto Sans Meetei Mayek",
"Noto Sans Mende Kikakui",
"Noto Sans Meroitic",
"Noto Sans Miao",
"Noto Sans Modi",
"Noto Sans Mongolian",
"Noto Sans Mono",
"Noto Sans Mro",
"Noto Sans Multani",
"Noto Sans Myanmar",
"Noto Sans Nabataean",
"Noto Sans New Tai Lue",
"Noto Sans Newa",
"Noto Sans NKo, Noto Sans N'Ko",
"Noto Sans Ogham",
"Noto Sans Ol Chiki",
"Noto Sans Old Hungarian, Noto Sans OldHung",
"Noto Sans Old Italic",
"Noto Sans Old North Arabian, Noto Sans OldNorArab",
"Noto Sans Old Permic",
"Noto Sans Old Persian",
"Noto Sans Old Sogdian",
"Noto Sans Old South Arabian, Noto Sans OldSouArab",
"Noto Sans Old Turkic",
"Noto Sans Oriya",
"Noto Sans Osage",
"Noto Sans Osmanya",
"Noto Sans Pahawh Hmong",
```

```
"Noto Sans Palmyrene",
"Noto Sans Pau Cin Hau",
"Noto Sans PhagsPa",
"Noto Sans Phoenician",
"Noto Sans Psalter Pahlavi, Noto Sans PsaPahlavi",
"Noto Sans Rejang",
"Noto Sans Runic",
"Noto Sans Samaritan",
"Noto Sans Saurashtra",
"Noto Sans Sharada",
"Noto Sans Shavian",
"Noto Sans Siddham",
"Noto Sans Sinhala",
"Noto Sans Sora Sompeng, Noto Sans SoraSomp",
"Noto Sans Sundanese",
"Noto Sans Syloti Nagri",
"Noto Sans Symbols",
"Noto Sans Symbols2",
"Noto Sans Syriac",
"Noto Sans Tagalog",
"Noto Sans Tagbanwa",
"Noto Sans Tai Le",
"Noto Sans Tai Tham",
"Noto Sans Tai Viet",
"Noto Sans Takri",
"Noto Sans Tamil",
"Noto Sans Tamil Supplement",
"Noto Sans Telugu",
"Noto Sans Thaana",
"Noto Sans Thai",
"Noto Sans Tibetan",
"Noto Sans Tifinagh",
"Noto Sans Tirhuta",
"Noto Sans Ugaritic",
"Noto Sans Vai",
"Noto Sans Warang Citi",
"Noto Sans Yi",
"Noto Serif",
"Noto Serif Ahom",
"Noto Serif Armenian",
"Noto Serif Balinese",
"Noto Serif Bengali",
"Noto Serif Devanagari",
"Noto Serif Display",
"Noto Serif Dogra",
"Noto Serif Ethiopic",
"Noto Serif Georgian",
"Noto Serif Gujarati",
"Noto Serif Gurmukhi",
"Noto Serif Hebrew",
"Noto Serif Kannada",
"Noto Serif Khmer",
"Noto Serif Lao",
"Noto Serif Malayalam",
"Noto Serif Myanmar",
"Noto Serif Sinhala",
"Noto Serif Tamil",
"Noto Serif Tamil Slanted",
"Noto Serif Tangut",
"Noto Serif Telugu",
"Noto Serif Thai",
"Noto Serif Tibetan",
"Open Sans",
"Open Sans Condensed",
"Open Sans, Open Sans Condensed Light",
"Open Sans, Open Sans Extrabold",
"Open Sans, Open Sans Light",
"Open Sans, Open Sans Semibold",
"P052",
"Padauk",
"Padauk Book",
"Purisa",
"Roboto",
"Roboto Condensed",
"Roboto Condensed, Roboto Condensed Light",
"Roboto Condensed, Roboto Condensed Medium",
"Roboto, Roboto Black",
"Roboto, Roboto Light",
"Roboto, Roboto Medium",
"Roboto, Roboto Thin",
"Sawasdee",
"Standard Symbols L",
"Standard Symbols PS",
"STIX",
"STIX Math",
"STIXGeneral",
"STIXIntegralsD",
"STIXIntegralsSm",
"STIXIntegralsUp",
```

```
"STIXIntegralsUpD",
  "STIXIntegralsUpSm",
  "STIXNonUnicode",
  "STIXSizeFiveSym",
  "STIXSizeFourSym",
  "STIXSizeOneSym",
  "STIXSizeThreeSym",
  "STIXSizeTwoSym",
  "STIXVariants",
  "TeXGyreAdventor",
  "TeXGyreBonum",
  "TeXGyreChorus",
  "TeXGyreCursor",
  "TeXGyreHeros",
  "TeXGyreHerosCondensed",
  "TeXGyrePagella",
  "TeXGyreSchola",
  "TeXGyreTermes",
  "Tinos",
  "Tlwg Mono",
  "Tlwg Typewriter",
  "Tlwg Typist",
  "Tlwg Typo",
  "Umpush",
  "UnBatang,
  "UnDinaru,
  "UnDotum, "
  "UnGraphic,
  "UnGungseo,
  "Universalis ADF Std",
  "Universalis ADF Std, Universalis ADF Std cond",
  "UnJamoBatang,
  "UnJamoDotum,
  "UnJamoNovel,
  "UnJamoSora,
  "UnPen, ",
  "UnPenheulim,
  "UnPilgi, ",
  "UnPilgia, a",
  "UnShinmun, ",
  "UnTaza, ",
  "UnVada,
  "UnYetgul,
  "URW Bookman",
  "URW Bookman L",
  "URW Chancery L",
  "URW Gothic",
  "URW Gothic L"
  "URW Palladio L",
  "Utopia",
  "Waree",
  "Z003")
##@ find -type d texlive
\#\# find / -type d -iname texlive
"find / -type d -iname texlive" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find / -type d -iname texlive", intern = TRUE): running command 'find / -type d -iname texlive' had
status 1
c("/usr/share/doc/texlive-doc/texlive",
  "/usr/share/texlive",
  "/usr/share/texlive/tlpkg/TeXLive",
  "/usr/share/texlive/texmf-dist/scripts/texlive",
  "/var/lib/tex-common/hyphen-cnf/texlive",
  "/var/lib/tex-common/fmtutil-cnf/texlive",
  "/var/lib/tex-common/fontmap-cfg/texlive")
c("/usr/local/texlive",
                     "/usr/local/texlive/tlpkg/TexLive", "/usr/local/texlive/texmf-dist/tex/context/texlive", "/usr/local/texlive/texmf-dist/scripts/texlive",
"/opt/texlive")
find / -type d -iname texmf-dist
```

```
"find / -type d -iname texmf-dist" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find / -type d -iname texmf-dist", intern = TRUE): running command 'find / -type d -iname
texmf-dist' had status 1
c("/usr/share/texlive/texmf-dist")

c("/usr/share/texlive/texmf-dist")

##@ find -type d packages ______
### find /usr/share/texlive -type d -iname "fontspec"
### find /usr/share/texlive -type d -iname "fontspec"
"find /usr/share/texlive -type d -iname \"fontspec\"" |>
    system(intern = TRUE) |>
```

 $c("/usr/share/texlive/texmf-dist/tex/latex/fontspec")\ c("/usr/local/texlive/texmf-dist/tex/latex/fontspec")$

find /usr/share/texlive/texmf-dist/tex/latex -maxdepth 1 -type d -printf find /usr/local/texlive/texmf-dist/tex/latex -maxdepth 1 -type d -printf

```
"find /usr/share/texlive/texmf-dist/tex/latex -maxdepth 1 -type d -printf \"%f\n\"" |>
    system(intern = TRUE) |>
    sort() |>
    dput()
c("12many", "a0poster", "a4wide", "a5comb", "aastex", "abc",
"abnt", "abntex2", "abraces", "abstract", "academicons", "accanthis",
"accents", "accessibility", "accfonts", "accsupp", "achemso",
"acmart", "acmconf", "acro", "acronym", "acroterm", "active-conf",
"actuarialangle", "actuarialsymbol", "addfont", "addlines", "adfathesis",
"adforn", "adfsymbols", "adigraph", "adjmulticol", "adjustbox",
"adrconv", "adtrees", "advdate", "ae", "aecc", "aeguill", "afparticle",
"afthesis", "aguplus", "aiaa", "akktex", "akletter", "alegreya",
"alertmessage", "alg", "algobox", "algolrevived", "algorithm2e",
"algorithmicx", "algorithms", "algxpar", "aligned-overset", "allrunes",
"almendra", "alnumsec", "alterqcm", "altfont", "ametsoc", "amiri",
"amsaddr", "amscdx", "amscls", "amsfonts", "amsmath", "amsrefs",
"animate", "anonchap", "anonymouspro", "answers", "antiqua",
"antt", "anyfontsize", "anysize", "aobs-tikz", "aomart", "apa",
"apa6", "apa6e", "apa7", "apacite", "appendix", "appendixnumberbeamer",
"apptools", "apxproof", "arabi", "arabi-add", "arabicfront",
"arabtex", "aramaic-serto", "archaeologie", "archaic", "arcs",
"arev", "arimo", "armenian", "arraycols", "arraysort", "arsclassica",
"articleingud", "arydshln", "asaetr", "asapsym", "ascelike",
"ascii-font", "asciilist", "ascmac", "askinclude", "askmaps",
"asmeconf", "asmejour", "aspectratio", "assignment", "assoccnt",
"asyfig", "asypictureb", "attenddvi", "attachfile", "attachfile2",
"atveryend", "aucklandthesis", "augie", "auncial-new", "aurical",
"aurl", "authoraftertitle", "authorarchive", "authordate", "authorindex",
"auto-pst-pdf", "auto-pst-pdf-lua", "autoarea", "autobreak",
"autonum", "autopdf", "auxhook", "avantgar", "avremu", "awesomebox",
"axessibility", "axodraw2", "b1encoding", "babelbib", "background",
"backnaur", "bangorcsthesis", "bangorexam", "bangtex", "bankstatement",
"barcodes", "bardiag", "base", "bashful", "basicarith", "baskervald",
"baskervaldx", "baskervillef", "basque-book", "basque-date",
"bbding", "bbm-macros", "bbold", "bchart", "bclogo", "beamer",
"beamer-verona", "beamer2thesis", "beameraudience", "beamerauxtheme",
"beamercolorthemeowl", "beamerdarkthemes", "beamerposter", "beamersubframe",
"beamerswitch", "beamertheme-cuerna", "beamertheme-detlevcm",
"beamer
theme-epyt", "beamer
theme-focus", "beamer
theme-light",
"beamertheme-metropolis", "beamertheme-npbt", "beamertheme-phnompenh",
"beamertheme-saintpetersburg", "beamertheme-upenn-bc", "beamerthemejltree",
"beamerthemenirma", "bearwear", "begingreek", "begriff", "beilstein",
"bengali", "bera", "berenisadf", "betababel", "beton", "beuron",
"bewerbung", "bez123", "bgreek", "bgteubner", "bguq", "bhcexam",
"bibarts", "biblatex", "biblatex-abnt", "biblatex-anonymous",
"biblatex-apa", "biblatex-apa6", "biblatex-archaeology", "biblatex-arthistory-bonn",
"biblatex-bath", "biblatex-bookinarticle", "biblatex-bookinother",
"biblatex-bwl", "biblatex-caspervector", "biblatex-chem", "biblatex-chicago",
"biblatex-claves", "biblatex-dw", "biblatex-enc", "biblatex-ext",
"biblatex-fiwi", "biblatex-gb7714-2015", "biblatex-gost", "biblatex-historian",
"biblatex-ieee", "biblatex-ijsra", "biblatex-iso690", "biblatex-jura2",
"biblatex-juradiss", "biblatex-lni", "biblatex-luh-ipw", "biblatex-manuscripts-philology",
"biblatex-mla", "biblatex-morenames", "biblatex-multiple-dm",
"biblatex-musuos", "biblatex-nature", "biblatex-nejm", "biblatex-nottsclassic",
"biblatex-opcit-booktitle", "biblatex-oxref", "biblatex-philosophy",
"biblatex-phys", "biblatex-publist", "biblatex-realauthor", "biblatex-sbl",
"biblatex-science", "biblatex-shortfields", "biblatex-socialscienceshuberlin",
"biblatex-source-division", "biblatex-subseries", "biblatex-swiss-legal",
"biblatex-trad", "biblatex-true-citepages-omit", "bibleref",
"bibleref-french", "bibleref-german", "bibleref-lds", "bibleref-mouth",
"bibleref-parse", "bibletext", "biblist", "bibtopic", "bibtopicprefix",
"bibunits", "bigfoot", "bigints", "binarytree", "binomexp", "biochemistry-colors",
"biocon", "bitpattern", "bitter", "bizcard", "blacklettert1",
"blindtext", "blkarray", "blochsphere", "block", "bloques", "blowup",
"blox", "bnumexpr", "bodegraph", "bohr", "boisik", "boites",
"bold-extra", "boldtensors", "bondgraph", "bondgraphs", "bookcover",
"bookest", "bookhands", "booklet", "bookman", "bookmark", "booktabs",
"boolexpr", "boondox", "bophook", "bosisio", "boxedminipage",
"boxedminipage2e", "boxhandler", "bpchem", "br-lex", "bracketkey",
"braids", "braille", "braket", "brandeis-dissertation", "brandeis-problemset",
"brandeis-thesis", "breakcites", "breakurl", "bredzenie", "breqn", "bropd", "brushscr", "bullcntr", "bundledoc", "burmese", "bussproofs",
```

```
"bussproofs-extra", "bxbase", "bxcalc", "bxcjkjatype", "bxdpx-beamer",
"bxdvidriver", "bxeepic", "bxenclose", "bxghost", "bxjaholiday",
"bxjalipsum", "bxjaprnind", "bxjatoucs", "bxjscls", "bxnewfont",
"bxorigcapt", "bxpapersize", "bxpdfver", "bxtexlogo", "bxwareki",
"bytefield", "cabin", "cachepic", "caladea", "calcage", "calctab",
"calculation", "calculator", "callouts", "calrsfs", "cals", "calxxxx-yyyy",
"cancel", "canoniclayout", "cantarell", "capt-of", "captcont",
"captdef", "caption", "carbohydrates", "carlisle", "carlito",
"cascade", "cascadilla", "cases", "casyl", "catchfilebetweentags",
"catechis", "catoptions", "cbcoptic", "cbfonts-fd", "ccaption",
"ccfonts", "ccicons", "cclicenses", "cd", "cd-cover", "cdpbundl",
"cell", "cellprops", "cellspace", "celtic", "censor", "centeredline",
"cesenaexam", "cfr-initials", "cfr-lm", "changebar", "changelayout",
"changelog", "changepage", "changes", "chappg", "chapterfolder",
"chbibref", "cheatsheet", "checkend", "checklistings", "chemarrow"
"chemcompounds", "chemcono", "chemexec", "chemformula", "chemgreek",
"chemmacros", "chemnum", "chemplants", "chemschemex", "chemsec",
"chemstyle", "cherokee", "chess", "chess-problem-diagrams", "chessboard",
"chessfss", "chet", "chextras", "chicago", "childdoc", "chivo",
"chkfloat", "chklref", "chletter", "chngcntr", "chordbars", "chordbox",
"chronology", "chs-physics-report", "chscite", "churchslavonic",
"cinzel", "circ", "circledsteps", "circuit-macros", "circuitikz",
"cite", "citeall", "citeref", "cje", "cjhebrew", "cjk-ko", "cjkpunct",
"clara", "classics", "classicthesis", "classpack", "cleanthesis",
"clearsans", "clefval", "cleveref", "clipboard", "clock", "clojure-pamphlet",
"clrdblpg", "clrscode", "clrscode3e", "clrstrip", "cm-lgc", "cmap",
"cmbright", "cmdstring", "cmdtrack", "cmll", "cmpj", "cmsd",
"cmsrb", "cmtiup", "cmupint", "cnbwp", "cnltx", "cntformats",
"cntperchap", "cochineal", "codeanatomy", "codedoc", "codepage",
"codesection", "codicefiscaleitaliano", "coelacanth", "collcell",
"collectbox", "collref", "colophon", "colordoc", "colorinfo",
"coloring", "colorspace", "colortbl", "colorwav", "colorweb",
"colourchange", "combelow", "combine", "combinedgraphics", "comfortaa",
"comicneue", "comma", "commath", "commedit", "comment", "compactbib",
"competences", "complexity", "computational-complexity", "concepts",
"concmath", "concprog", "confproc", "constants", "conteq", "continue",
"contour", "contracard", "conv-xkv", "cooking", "cooking-units",
"cookingsymbols", "cool", "coollist", "coolstr", "coolthms",
"cooltooltips", "coordsys", "copyedit", "copyrightbox", "cormorantgaramond",
"correctmathalign", "coseoul", "countriesofeurope", "counttexruns",
"courier", "courier-scaled", "courseoutline", "coursepaper",
"coverpage", "covington", "cprotect", "cquthesis", "crbox", "crimson",
"crimsonpro", "crop", "crossreference", "crossreftools", "crossrefware",
"crossword", "crosswrd", "cryptocode", "csbulletin", "csquotes",
"css-colors", "csvmerge", "csvsimple", "ctable", "ctex", "ctib",
"cuisine", "cuprum", "currency", "currfile", "currvita", "curve",
"curve2e", "curves", "custom-bib", "cutwin", "cv", "cv4tw", "cweb-latex",
"cyber", "cybercic", "cyklop", "cyrillic", "dantelogo", "dashbox",
"dashrule", "dashundergaps", "dataref", "datatool", "dateiliste",
"datenumber", "datetime", "datetime2", "datetime2-bahasai", "datetime2-basque",
"datetime2-breton", "datetime2-bulgarian", "datetime2-catalan",
"datetime2-croatian", "datetime2-czech", "datetime2-danish",
"datetime2-dutch", "datetime2-en-fulltext", "datetime2-english",
"datetime2-esperanto", "datetime2-estonian", "datetime2-finnish",
"datetime2-french", "datetime2-galician", "datetime2-german",
"datetime2-greek", "datetime2-hebrew", "datetime2-icelandic",
"datetime2-irish", "datetime2-it-fulltext", "datetime2-italian",
"datetime2-latin", "datetime2-lsorbian", "datetime2-magyar",
"datetime2-norsk", "datetime2-polish", "datetime2-portuges",
"datetime2-romanian", "datetime2-russian", "datetime2-samin",
"datetime2-scottish", "datetime2-serbian", "datetime2-slovak",
"datetime2-slovene", "datetime2-spanish", "datetime2-swedish",
"datetime2-turkish", "datetime2-ukrainian", "datetime2-usorbian",
"datetime2-welsh", "dblfloatfix", "dccpaper", "ddphonism", "decimal",
"decorule", "dejavu", "dejavu-otf", "delim", "delimseasy", "delimset",
"delimtxt", "denisbdoc", "derivative", "dhua", "diadia", "diagbox",
"diagmac2", "diagnose", "dialogl", "dichokey", "dictsym", "diffcoeff",
"digiconfigs", "dijkstra", "dinbrief", "dingbat", "directory",
"dirtytalk", "disser", "ditaa", "dithesis", "dk-bib", "dlfltxb",
"dnaseq", "doclicense", "docmfp", "docmute", "doctools", "documentation",
"doi", "doipubmed", "domitian", "dot2texi", "dotarrow", "dotlessi",
"dotseqn", "dottex", "doublestroke", "download", "dox", "dozenal",
"dpfloat", "dprogress", "drac", "draftcopy", "draftfigure", "draftwatermark",
"dramatist", "drawmatrix", "drawstack", "drm", "droid", "droit-fr",
"drs", "dsptricks", "dsserif", "dtk", "dtxdescribe", "ducksay",
"duckuments", "duerer-latex", "duotenzor", "dutchcal", "dvdcoll",
"dvgloss", "dynamicnumber", "dynblocks", "dynkin-diagrams", "dyntree",
"ean13isbn", "easy", "easy-todo", "easyfig", "easyformat", "easylist",
"easyreview", "ebezier", "ebgaramond", "ebgaramond-maths", "ebook",
"ebproof", "ebsthesis", "ecclesiastic", "ecgdraw", "ecltree",
"eco", "ecobiblatex", "econometrics", "economic", "ecv", "ed",
"edfnotes", "edmargin", "ednotes", "eemeir", "eepic", "efbox",
"egameps", "egplot", "ehhline", "eiad", "eiad-ltx", "ejpecp",
"ekaia", "elbioimp", "electrum", "eledform", "eledmac", "elegantbook",
"elegantnote", "elegantpaper", "elements", "ellipse", "ellipsis",
"elmath", "elocalloc", "elpres", "els-cas-templates", "elsarticle",
"elteikthesis", "eltex", "elzcards", "emarks", "embedall", "embedfile", \ensuremath{\text{"embedfile"}}
"embrac", "emf", "emisa", "emp", "emptypage", "emulateapj", "encxvlna",
"endfloat", "endheads", "endiagram", "endnotes", "endnotesj",
```

```
"endofproofwd", "engpron", "engrec", "engtlc", "enigma", "enotez",
"enumitem", "enumitem-zref", "envbig", "environ", "envlab", "epigrafica",
"epigraph", "epiolmec", "epsdice", "epspdfconversion", "epstopdf-pkg",
"eqell", "eqexpl", "eqlist", "eqnalign", "eqname", "eqnarray",
"eqnnumwarn", "eqparbox", "erdc", "erewhon", "erewhon-math",
"errata", "erw-13", "esami", "esdiff", "ESIEEcv", "esindex",
"esint", "esk", "eskd", "eskdx", "eso-pic", "esrelation", "esstix",
"estcpmm", "esvect", "etaremune", "etex-pkg", "etextools", "ethiop",
"etoc", "etoolbox", "etsvthor", "euclideangeometry", "euenc",
"euflag", "eukdate", "euler", "eulerpx", "eulervm", "euro", "europasscv",
"europecv", "eurosym", "everyhook", "everypage", "exam", "exam-n",
"exam-randomizechoices", "examdesign", "example", "examplep",
"exceltex", "excludeonly", "exercise", "exercisebank", "exercisepoints",
"exercises", "exframe", "exp-testopt", "expdlist", "expkv", "export",
"exsheets", "exsol", "extarrows", "extpfeil", "extract", "extsizes",
"facsimile", "factura", "faktor", "fancybox", "fancyhandout",
"fancyhdr", "fancylabel", "fancynum", "fancypar", "fancyref",
"fancyslides", "fancytabs", "fancytooltips", "fancyvrb", "fascicules",
"fast-diagram", "fbb", "fbithesis", "fbox", "fc", "fcavtex",
"fcltxdoc", "fcolumn", "fdsymbol", "fduthesis", "fei", "fetamont",
"fetchcls", "feupphdteses", "fewerfloatpages", "feyn", "feynmp-auto",
"ffslides", "fge", "fgruler", "fibeamer", "fifo-stack", "figbib",
"figsize", "filecontents", "filecontentsdef", "filedate", "filehook",
"fileinfo", "filemod", "fink", "finstrut", "fira", "firamath-otf",
"fitbox", "fithesis", "fix2col", "fixcmex", "fixfoot", "fixltxhyph",
"fixme", "fixmetodonotes", "fjodor", "flabels", "flacards", "flagderiv",
"flashcards", "flashmovie", "flipbook", "flippdf", "float", "floatflt",
"floatrow", "flowchart", "flowfram", "fmp", "fmtcount", "fn2end",
"fnbreak", "fncychap", "fncylab", "fnpara", "fnpct", "fnspe",
"fnumprint", "foekfont", "foilhtml", "fonetika", "fontawesome",
"fontawesome5", "fontaxes", "fontinst", "fontmfizz", "fonts-tlwg",
"fontsetup", "fontspec", "fonttable", "footbib", "footmisc",
"footmisx", "footnotebackref", "footnotehyper", "footnoterange",
"footnpag", "forarray", "foreign", "forest", "forloop", "forms16be",
"formular", "forum", "fouridx", "fourier", "fouriernc", "fp",
"fragments", "framed", "francais-bst", "frankenstein", "frcursive",
"frege", "frenchmath", "frletter", "frontespizio", "ftc-notebook",
"ftcap", "ftnxtra", "fullblck", "fullminipage", "fullwidth",
"functan", "fundus-calligra", "fundus-cyr", "fundus-sueterlin",
"fvextra", "fwlw", "g-brief", "gaceta", "galois", "gamebook",
"gammas", "gastex", "gatech-thesis", "gatherenum", "gauss", "gb4e", "gbt7714", "gcard", "gchords", "gcite", "gender", "gene-logic",
"genealogytree", "genmpage", "gentium-tug", "gentombow", "geometry",
"germbib", "germkorr", "geschichtsfrkl", "getfiledate", "getitems",
"getmap", "gfsartemisia", "gfsbaskerville", "gfsbodoni", "gfscomplutum",
"gfsdidot", "gfsneohellenic", "gfsneohellenicmath", "gfsporson",
"gfssolomos", "ghab", "ghsystem", "gillcm", "gillius", "gincltex",
"gindex", "ginpenc", "gitfile-info", "gitinfo", "gitinfo2", "gitlog",
"gitver", "globalvals", "glosmathtools", "gloss", "glossaries",
"glossaries-danish", "glossaries-dutch", "glossaries-english",
\verb|"glossaries-estonian", \verb|"glossaries-extra", \verb|"glossaries-finnish", \\
"glossaries-french", "glossaries-german", "glossaries-irish",
"glossaries-italian", "glossaries-magyar", "glossaries-polish",
"glossaries-portuges", "glossaries-serbian", "glossaries-slovene", "glossaries-spanish", "gmdoc", "gmdoc-enhance", "gmiflink", "gmp",
"gmutils", "gmverb", "gmverse", "gnuplottex", "go", "gofonts",
\verb|"gotoh", "grabbox", "gradientframe", "gradstudentresume", "grafcet", \\
"grant", "graph35", "graphbox", "graphics", "graphics-cfg", "graphics-def", "graphicx-psmin", "graphicxbox", "graphicxpsd", "graphviz", "grayhints",
"greek-fontenc", "greek-inputenc", "greekdates", "greektex", "greektonoi", "grfext", "grffile", "grfpaste", "grid", "grid-system",
"gridset", "gridslides", "grotesq", "grundgesetze", "GS1", "gsemthesis",
"gtrcrd", "gtrlib-largetrees", "gu", "guitar", "guitarchordschemes",
"guitartabs", "guitlogo", "gzt", "h2020proposal", "HA-prosper",
"hackthefootline", "hacm", "hagenberg-thesis", "halloweenmath",
"handin", "handout", "hang", "hanging", "har2nat", "hardwrap",
"harmony", "harnon-cv", "harpoon", "harvard", "harveyballs",
"hausarbeit-jura", "havannah", "hc", "he-she", "hecthese", "helvetic",
"hep", "hep-paper", "hepnames", "hepparticles", "hepthesis",
"hepunits", "here", "heuristica", "hexgame", "hf-tikz", "hfoldsty",
"hhtensor", "histogr", "historische-zeitschrift", "hitec", "hithesis",
"hletter", "hobby", "hobete", "hobsub", "horoscop", "hpsdiss",
"hrefhide", "hrlatex", "hu-berlin-bundle", "hulipsum", "hustthesis",
"hvfloat", "hvindex", "hvqrurl", "hycolor", "hypdvips", "hyper",
"hyperbar", "hypernat", "hyperref", "hyperxmp", "hyphenat", "ibycus-babel",
"icite", "icsv", "identkey", "idxcmds", "idxlayout", "IEEEconf",
"ieeepes", "IEEEtran", "iffont", "ifmslide", "ifmtarg", "ifnextok",
"ifoddpage", "ifplatform", "ifsym", "ifthenx", "iitem", "ijmart",
"ijsra", "imac", "image-gallery", "imakeidx", "imfellenglish",
"impnattypo", "import", "imtekda", "incgraph", "includernw",
"inconsolata", "index", "indextools", "initials", "inkpaper",
"inline-images", "inlinebib", "inlinedef", "inputenx", "inputtrc",
"inriafonts", "interactiveworkbook", "interfaces", "interval",
"intopdf", "inversepath", "invoice", "invoice-class", "invoice2",
"iodhbwm", "ionumbers", "ipaex-type1", "iscram", "iso", "iso10303",
"isodate", "isodoc", "isomath", "isonums", "isopt", "isorot",
"isotope", "issuulinks", "istgame", "itnumpar", "iwhdp", "iwona",
"jacow", "jamtimes", "jigsaw", "jkmath", "jknapltx", "jlabels",
"jlreq", "jmb", "jmlr", "jneurosci", "jnuexam", "jpsj", "jslectureplanner",
```

```
"jumplines", "junicode", "jura", "juraabbrev", "jurabib", "juramisc",
"jurarsp", "jvlisting", "kalendarium", "kantlipsum", "karnaugh",
"karnaugh-map", "karnaughmap", "kblocks", "kdgdocs", "kerkis",
"kerntest", "ketcindy", "keycommand", "keyfloat", "keyindex",
"keyreader", "keystroke", "keyval2e", "keyvaltable", "kix", "kluwer",
"knitting", "knittingpattern", "knowledge", "koma-moderncvclassic",
"koma-script", "koma-script-sfs", "komacv", "komacv-rg", "kotex-oblivoir",
"kotex-utf", "kpfonts", "ksp-thesis", "ktv-texdata", "ku-template",
"kurier", "kvmap", "kvoptions", "l3backend", "l3build", "l3experimental",
"13kernel", "13packages", "labbook", "labels", "labels4easylist",
"labelschanged", "labyrinth", "ladder", "lapdf", "lastpackage",
"lastpage", "latex", "latex-make", "latex-uni8", "latex2man",
"latexbangla", "latexbug", "latexcolors", "latexconfig", "latexdemo",
"latexfileinfo-pkgs", "latexgit", "latino-sine-flexione", "lato",
"layaureo", "layouts", "lazylist", "lccaps", "lcd", "lcg", "lcyw",
"leading", "leadsheets", "leaflet", "lectures", "ledmac", "leftidx",
"leipzig", "lengthconvert", "letltxmacro", "letterswitharrows",
"lettre", "lettrine", "lewis", "lexend", "lexikon", "lexref",
"lgreek", "lh", "lhcyr", "lhelp", "libertine", "libertinegc",
"libertinus", "libertinus-otf", "libertinus-type1", "libertinust1math",
"libgreek", "librebaskerville", "librebodoni", "librecaslon",
"librefranklin", "libris", "lie-hasse", "limap", "limecv", "linearA",
"linegoal", "lineno", "ling-macros", "linguex", "linguisticspro",
"linop", "lion-msc", "lipsum", "lisp-on-tex", "listbib", "listing",
"listings", "listings-ext", "listingsutf8", "listlbls", "listliketab",
"listofsymbols", "lithuanian", "liturg", "lkproof", "llncsconf",
"lmake", "lni", "lobster2", "locality", "localloc", "logbox",
"logical-markup-utils", "logicproof", "logicpuzzle", "logix",
"logpap", "logreq", "longdivision", "longfbox", "longfigure",
"longnamefilelist", "loops", "lpic", "lplfitch", "lps", "lroundrect",
"lsc", "lstaddons", "lstbayes", "lstfiracode", "lt3graph", "ltablex",
"ltabptch", "ltb2bib", "ltxdockit", "ltxguidex", "ltxindex",
"ltxkeys", "ltxmisc", "ltxnew", "ltxtools", "luacolor", "lwarp",
"lxfonts", "ly1", "m-tx", "macros2e", "macroswap", "mafr", "magaz",
"mailing", "mailmerge", "makebarcode", "makebase", "makebox",
"makecell", "makecmds", "makedtx", "makeglos", "makeplot", "maker",
"makerobust", "makeshape", "mandi", "manfnt", "manuscript", "manyind",
"marcellus", "margbib", "marginfit", "marginfix", "marginnote",
"markdown", "marvosym", "matc3", "matc3mem", "mathalpha", "mathastext",
"mathcommand", "mathcomp", "mathdesign", "mathexam", "mathfam256",
"mathfixs", "mathfont", "mathpartir", "mathpunctspace", "mathspic",
"mathtools", "matlab-prettifier", "matrix-skeleton", "mattens",
"maybemath", "mcaption", "mceinleger", "mcexam", "mcite", "mciteplus",
"mcmthesis", "mdframed", "mdputu", "mdsymbol", "mdwtools", "media9",
"medstarbeamer", "meetingmins", "memexsupp", "memoir", "memory",
"memorygraphs", "mensa-tex", "mentis", "menu", "menukeys", "merriweather",
"metalogo", "metalogox", "metastr", "method", "metre", "metrix",
"mfirstuc", "mflogo", "mfnfss", "mfpic4ode", "mftinc", "mgltex",
"mhchem", "mhequ", "mi-solns", "miama", "microtype", "midpage",
"miller", "milog", "milsymb", "minibox", "minidocument", "minipage-marginpar",
"miniplot", "minitoc", "minorrevision", "minted", "mintspirit",
"minutes", "mismath", "missaali", "mla-paper", "mlacls", "mlist",
"mltex", "mmap", "mnotes", "mnras", "mnsymbol", "modeles-factures-belges-assocs",
"moderncv", "modernposter", "moderntimeline", "modiagram", "modref",
"modroman", "modular", "mongolian-babel", "monofill", "montex",
"montserrat", "moodle", "moreenum", "morefloats", "morehype",
"moresize", "moreverb", "morewrites", "morisawa", "movie15",
"mparhack", "mpgraphics", "mpostinl", "ms", "msc", "msg", "mslapa",
"msu-thesis", "mtgreek", "mucproc", "mugsthesis", "multenum",
"multiaudience", "multibbl", "multibib", "multibibliography",
"multicap", "multicolrule", "multidef", "multido", "multienv",
"multilang", "multiobjective", "multirow", "musicography", "musikui",
"musixguit", "musixtex", "musuos", "muthesis", "mversion", "mwcls",
"mwe", "mweights", "mxedruli", "mychemistry", "mycv", "mylatexformat",
"nag", "nameauth", "namespc", "nanumtype1", "natbib", "natded",
"nath", "nature", "navydocs", "ncclatex", "ncctools", "ncntrsbk",
"nddiss", "ndsu-thesis", "needspace", "nestquot", "neuralnetwork",
"nevelok", "newenviron", "newfile", "newfloat", "newlfm", "newpx",
"newspaper", "newtx", "newtxsf", "newtxtt", "newunicodechar",
"newvbtm", "newverbs", "nextpage", "nfssext-cfr", "nicefilelist",
"niceframe", "nicematrix", "nicetext", "nidanfloat", "nih", "nihbiosketch",
"nimbus15", "njurepo", "nlctdoc", "nmbib", "noconflict", "noindentafter",
"noitcrul", "nolbreaks", "nomencl", "nomentbl", "nonfloat", "nonumonpart",
"nopageno", "normalcolor", "nostarch", "notes", "notes2bib",
"notespages", "notestex", "noto", "notoccite", "nowidow", "nox",
"nrc", "ntgclass", "ntheorem", "nuc", "nucleardata", "numberedblock",
"numberpt", "numericplots", "numname", "numnameru", "numprint",
"numspell", "nwejm", "oberdiek", "objectz", "obnov", "ocg-p",
"ocgx", "ocgx2", "ocr-latex", "octave", "octavo", "old-arrows",
"oldstandard", "oldstyle", "onedown", "onlyamsmath", "onrannual",
"opcit", "opensans", "oplotsymbl", "opteng", "optidef", "optional",
"options", "ordinalpt", "oscola", "ot-tableau", "othello", "othelloboard",
"otibet", "outlines", "outlines", "outlines", "outlining",
"overlays", "overlock", "overpic", "pacioli", "padcount", "pagecolor",
"pagecont", "pagenote", "pagerange", "pageslts", "palatino",
"paper", "papercdcase", "papermas", "papertex", "paracol", "parades",
"paralist", "parallel", "paratype", "paresse", "parnotes", "parrun",
"parselines", "parskip", "pas-cours", "pas-crosswords", "pas-cv",
"pas-tableur", "patchcmd", "pauldoc", "pawpict", "pax", "pb-diagram",
```

```
"pbox", "pbsheet", "pdf14", "pdfcolmk", "pdfcomment", "pdfcprot",
"pdflscape", "pdfmarginpar", "pdfoverlay", "pdfpagediff", "pdfpages",
"pdfpc-movie", "pdfprivacy", "pdfreview", "pdfscreen", "pdfslide",
"pdfsync", "pdftexcmds", "pdftricks", "pdftricks2", "pdfwin",
"pdfx", "pecha", "penrose", "perfectcut", "perltex", "permute",
"petiteannonce", "pfarrei", "pgf", "pgf-blur", "pgf-cmykshadings",
"pgf-soroban", "pgf-spectra", "pgf-umlcd", "pgf-umlsd", "pgfgantt",
"pgfkeyx", "pgfmorepages", "pgfopts", "pgfornament", "pgfornament-han",
"pgfplots", "phaistos", "phffullpagefigure", "phfnote", "phfparen",
"phfqit", "phfquotetext", "phfsvnwatermark", "phfthm", "philex",
"philosophersimprint", "phonenumbers", "phonetic", "phonrule",
"photo", "physconst", "physics", "physunits", "piano", "picinpar",
"pict2e", "pictex2", "picture", "piff", "pigpen", "pinlabel",
"pinoutikz", "pittetd", "pixelart", "pkgloader", "pkuthss", "placeins",
"plantslabels", "plari", "plates", "platex-tools", "plautopatch",
"play", "playfair", "plex", "plex-otf", "plweb", "pm-isomath",
"pmboxdraw", "pmgraph", "pmhanguljamo", "poemscol", "poetry",
"poetrytex", "poiretone", "polexpr", "polski", "poltawski", "polyglossia",
"polynom", "polynomial", "polytable", "postage", "postcards",
"powerdot", "powerdot-fuberlin", "powerdot-tuliplab", "ppr-prv",
"pracjourn", "practicalreports", "preprint", "prerex", "pressrelease",
"prettyref", "prftree", "printlen", "proba", "probsoln", "procIAGssymp",
"prodint", "productbox", "program", "progress", "progressbar",
"proof-at-the-end", "proofread", "prooftrees", "properties",
"proposal", "prosper", "protex", "protocol", "prtec", "przechlewski-book",
"psbao", "pseudo", "pseudocode", "psfrag", "psfragx", "psgo",
"pslatex", "psnfss", "pspicture", "pst-2dplot", "pst-3d", "pst-3dplot",
"pst-abspos", "pst-am", "pst-antiprism", "pst-arrow", "pst-asr",
"pst-bar", "pst-barcode", "pst-bezier", "pst-blur", "pst-bspline",
"pst-calculate", "pst-calendar", "pst-cie", "pst-circ", "pst-coil",
"pst-contourplot", "pst-cox", "pst-dart", "pst-dbicons", "pst-diffraction",
"pst-electricfield", "pst-eps", "pst-eucl", "pst-exa", "pst-feyn",
"pst-fill", "pst-fit", "pst-fr3d", "pst-fractal", "pst-fun",
"pst-func", "pst-gantt", "pst-geo", "pst-geometrictools", "pst-ghsb",
"pst-gr3d", "pst-grad", "pst-infixplot", "pst-intersect", "pst-jtree",
"pst-knot", "pst-labo", "pst-layout", "pst-lens", "pst-light3d",
"pst-lsystem", "pst-magneticfield", "pst-marble", "pst-math",
"pst-mirror", "pst-moire", "pst-node", "pst-ob3d", "pst-ode",
"pst-optexp", "pst-optic", "pst-osci", "pst-ovl", "pst-pad",
"pst-pdf", "pst-pdgr", "pst-perspective", "pst-platon", "pst-plot",
"pst-poker", "pst-poly", "pst-pulley", "pst-qtree", "pst-rputover",
"pst-rubans", "pst-shell", "pst-sigsys", "pst-slpe", "pst-solarsystem",
"pst-solides3d", "pst-soroban", "pst-spectra", "pst-spinner",
"pst-spirograph", "pst-stru", "pst-text", "pst-thick", "pst-tools",
"pst-tree", "pst-turtle", "pst-tvz", "pst-uml", "pst-vectorian",
"pst-vehicle", "pst-venn", "pst-vowel", "pst-vue3d", "pstool",
"pstricks", "pstricks-add", "pstring", "ptolemaicastronomy",
"ptptex", "punk-latex", "pxcjkcat", "pxfonts", "pxgreeks", "pxjodel",
"pxpgfmark", "pxtatescale", "pxtxalfa", "pxufont", "python",
"pythonhighlight", "pythontex", "qcircuit", "qcm", "qobitree",
"qrcode", "qsharp", "qstest", "qsymbols", "qtree", "quantikz",
"quantumarticle", "quattrocento", "quicktype", "quiz2socrative",
"quotchap", "quoting", "quotmark", "r_und_s", "ragged2e", "raleway",
"ran_toks", "randbild", "randomwalk", "randtext", "rank-2-roots",
"rccol", "rcs", "rcs-multi", "rcsinfo", "readarray", "realboxes",
"realhats", "realscripts", "rec-thy", "recipe", "recipebook", "recipecard", "rectopma", "recycle", "refcheck", "refcount",
"refenums", "reflectgraphics", "refman", "refstyle", "regcount",
"regexpatch", "register", "regstats", "reledmac", "relenc", "relsize", "reotex", "repeatindex", "repltext", "rerunfilecheck", "resphilosophica",
"returntogrid", "revquantum", "revtex", "revtex4", "rgltxdoc",
"ribbonproofs", "rjlparshap", "rmathbr", "rmpage", "roboto",
"robustcommand", "robustindex", "romanbar", "romanbarpagenumber",
"romande", "romanneg", "romannum", "rosario", "rotfloat", "rotpages",
"roundbox", "rrgtrees", "rsc", "rsfso", "rterface", "rtkinenc",
"rtklage", "rubik", "rulerbox", "rulercompass", "russ", "rutitlepage",
"rviewport", "rvwrite", "ryersonsgsthesis", "ryethesis", "sa-tikz",
"sageep", "sanitize-umlaut", "sanskrit", "sansmath", "sansmathaccent",
"sansmathfonts", "sapthesis", "sasnrdisplay", "sauerj", "sauterfonts",
"savefnmark", "savesym", "savetrees", "scale", "scalebar", "scalerel",
"scanpages", "schedule", "schemabloc", "scholax", "schule", "schulmathematik",
"schulschriften", "schwalbe-chess", "scientific-thesis-cover",\\
"sciposter", "sclang-prettifier", "scontents", "scratch", "scratch3",
"scratchx", "screenplay", "screenplay-pkg", "scrjrnl", "scrlttr2copy",
"scsnowman", "sdaps", "sdrt", "sduthesis", "secdot", "secnum",
"section", "sectionbox", "sectionbreak", "sectsty", "seealso",
"selectp", "selinput", "semantic", "semantic-markup", "semaphor",
"seminar", "semioneside", "semproc", "sepfootnotes", "sepnum",
"seqsplit", "serbian-apostrophe", "serbian-date-lat", "serbian-def-cyr",
"serbian-lig", "sesamanuel", "sesstime", "setdeck", "setspace",
"seuthesix", "sf298", "sffms", "sfg", "sfmath", "sgame", "shadethm",
"shadow", "shadowtext", "shdoc", "shipunov", "shorttoc", "show2e",
"showcharinbox", "showdim", "showexpl", "showlabels", "showtags",
"shuffle", "sidecap", "sidenotes", "sides", "signchart", "silence",
"simplebnf", "simplecd", "simplecv", "simpleinvoice", "simpleoptics",
"simpler-wick", "simplewick", "SIstyle", "sitem", "SIunits",
"siunitx", "skak", "skb", "skdoc", "skeycommand", "skeyval",
"skmath", "skrapport", "skull", "slantsc", "smalltableof", "smartdiagram",
"smartref", "smartunits", "snapshot", "snotez", "songbook", "songs",
```

```
"soton", "soul", "soulpos", "soup", "sourcecodepro", "sourcesanspro",
"sourceserifpro", "spacingtricks", "spalign", "spanish-mx", "spark-otf",
"sparklines", "spath3", "spectralsequences", "sphack", "sphdthesis",
"spie", "splitbib", "splitindex", "spot", "spotcolor", "spreadtab",
"spverbatim", "sr-vorl", "srbook-mem", "srcltx", "srdp-mathematik",
"sseq", "sslides", "stack", "stackengine", "stage", "standalone",
"stanli", "starfont", "statex", "statex2", "statistics", "statistik",
"statmath", "staves", "stdclsdv", "stdpage", "stealcaps", "steinmetz",
"stellenbosch", "step", "stex", "stickstoo", "stix", "stix2",
"stmaryrd", "storebox", "storecmd", "stringstrings", "struktex",
"sttools", "stubs", "studenthandouts", "subdepth", "subdocs",
"subeqn", "subeqnarray", "subfig", "subfigmat", "subfigure",
"subfiles", "subfloat", "substances", "substitutefont", "substr",
"subsupscripts", "subtext", "sudoku", "sudokubundle", "suftesi",
"sugconf", "superiors", "supertabular", "susy", "svg", "svgcolor"
"svn", "svn-multi", "svn-prov", "svninfo", "svrsymbols", "swimgraf",
"syllogism", "symbol", "synproof", "syntax", "syntrace", "synttree",
"t-angles", "t2", "Tabbing", "tabfigures", "table-fct", "tableaux",
"tablefootnote", "tableof", "tablestyles", "tablists", "tablor",
"tabls", "tablvar", "tabriz-thesis", "tabstackengine", "tabto-ltx",
"tabu", "tabularborder", "tabularcalc", "tabularew", "tabulary",
"tabvar", "tagging", "tagpair", "tagpdf", "talk", "tamefloats",
"tasks", "tcldoc", "tcolorbox", "tdclock", "tdsfrmath", "technics",
"ted", "templatetools", "tempora", "tengwarscript", "tensind",
"tensor", "termcal", "termcal-de", "termlist", "testhyphens",
"testidx", "teubner", "tex-label", "tex-locale", "tex4ebook",
"texilikechaps", "texilikecover", "texlogos", "texmate", "texments",
"texosquery", "texpower", "texshade", "textcase", "textfit",
"textglos", "textgreek", "textopo", "textpath", "textpos", "textualicomma",
"texvc", "tfrupee", "thaienum", "thaispec", "thalie", "theanodidot",
"theanomodern", "theanooldstyle", "theoremref", "thesis-ekf",
"thesis-gwu", "thesis-titlepage-fhac", "thinsp", "thmbox", "thmtools",
"threadcol", "threeparttable", "threeparttablex", "thuaslogos",
"thucoursework", "thumb", "thumbs", "thumby", "thuthesis", "ticket",
"ticollege", "tikz-3dplot", "tikz-bayesnet", "tikz-cd", "tikz-dependency",
"tikz-dimline", "tikz-feynhand", "tikz-feynman", "tikz-imagelabels",
"tikz-inet", "tikz-kalender", "tikz-karnaugh", "tikz-ladder",
"tikz-layers", "tikz-nef", "tikz-network", "tikz-opm", "tikz-optics",
"tikz-page", "tikz-palattice", "tikz-qtree", "tikz-relay", "tikz-sfc",
"tikz-timing", "tikz-trackschematic", "tikz-truchet", "tikzcodeblocks",
"tikzducks", "tikzinclude", "tikzlings", "tikzmark", "tikzmarmots",
"tikzorbital", "tikzpagenodes", "tikzpeople", "tikzpfeile", "tikzposter",
"tikzscale", "tikzsymbols", "timbreicmc", "times", "timing-diagrams",
"tinos", "tipfr", "titlecaps", "titlefoot", "titlepic", "titleref",
"titlesec", "titling", "tkz-base", "tkz-berge", "tkz-doc", "tkz-euclide",
"tkz-fct", "tkz-graph", "tkz-kiviat", "tkz-linknodes", "tkz-orm",
"tkz-tab", "tlc-article", "tocbibind", "tocdata", "tocloft",
"tocvsec2", "todo", "todonotes", "tokenizer", "toolbox", "tools",
"topfloat", "topiclongtable", "topletter", "toptesi", "totcount",
"totpages", "tpslifonts", "tqft", "tracklang", "trajan", "tram",
"translations", "translator", "transparent", "tree-dvips", "trfsigns",
"trimspaces", "trivfloat", "trsym", "truncate", "tsemlines",
"tucv", "tuda-ci", "tudscr", "tufte-latex", "tugboat", "tui",
"turabian", "turabian-formatting", "turkmen", "turnstile", "turnthepage",
"twoinone", "twoup", "txfonts", "txfontsb", "txgreeks", "txuprcal",
"type1cm", "typed-checklist", "typeface", "typehtml", "typicons",
"typoaid", "typogrid", "uaclasses", "uafthesis", "uantwerpendocs",
"uassign", "ucalgmthesis", "ucbthesis", "ucdavisthesis", "ucharcat",
"ucs", "ucsmonograph", "ucthesis", "udesoftec", "uebungsblatt",
"uestcthesis", "uhhassignment", "uhrzeit", "uiucredborder", "uiucthesis",
"ulqda", "ulthese", "umbclegislation", "umich-thesis", "uml",
"umlaute", "umoline", "umthesis", "unam-thesis", "unamthesis",
"underlin", "underoverlap", "underscore", "undolabl", "uni-wtal-ger",
"uni-wtal-lin", "unicode-alphabets", "unicode-math", "unifith",
"unitn-bimrep", "units", "unitsdef", "universa", "universalis",
"univie-ling", "unizgklasa", "unravel", "unswcover", "uothesis",
"uowthesis", "uowthesistitlepage", "upmethodology", "uppunctlm",
"upquote", "urcls", "uri", "url", "urwchancal", "usebib", "ushort",
"uspace", "uspatent", "ut-thesis", "utexasthesis", "uwmslide",
"uwthesis", "variablelm", "varindex", "varsfromjobname", "varwidth",
"vdmlisting", "velthuis", "venndiagram", "venturis", "venturis2",
"venturisadf", "venturisold", "venturissans", "venturissans2",
"verbasef", "verbatimbox", "verbatimcopy", "verbdef", "verbments",
"verifica", "verse", "version", "versions", "versonotes", "vertbars",
"vgrid", "vhistory", "vmargin", "vntex", "vocaltract", "volumes",
"vpe", "vruler", "vtable", "vwcol", "wallpaper", "warning", "warpcol",
"was", "wasysym", "webquiz", "widetable", "widows-and-orphans",
"williams", "windycity", "withargs", "wnri-latex", "wordcount",
"wordlike", "worksheet", "wrapfig", "wsemclassic", "wsuipa",
"wtref", "xargs", "xassoccnt", "xbmks", "xcharter", "xcite",
"xcjk2uni", "xcntperchap", "xcolor", "xcolor-material", "xcolor-solarized",
"xcookybooky", "xcpdftips", "xdoc", "xduthesis", "xebaposter",
"xecyrmongolian", "xellipsis", "xfakebold", "xfor", "xhfill",
"xifthen", "xindex", "xkcdcolors", "xkeyval", "xltabular", "xmpincl",
"xnewcommand", "xoptarg", "xpatch", "xpeek", "xpiano", "xpicture",
"xpinyin", "xprintlen", "xpunctuate", "xq", "xsavebox", "xsim",
"xskak", "xtab", "xtuthesis", "xurl", "xwatermark", "xyling",
"xymtex", "xytree", "yafoot", "yagusylo", "yaletter", "yathesis",
"ycbook", "ydoc", "yfonts", "yhmath", "york-thesis", "youngtab",
```

```
"yplan", "ytableau", "zapfchan", "zapfding", "zebra-goodies",
"zed-csp", "zhlineskip", "zhlipsum", "zhmetrics", "zhnumber",
"ziffer", "zlmtt", "zref", "zwgetfdate", "zwpagelayout", "zxjafbfont",
"zxjafont", "zxjatype")
"find /usr/local/texlive/texmf-dist/tex/latex -maxdepth 1 -type d -printf \"%f\n\"" |>
    system(intern = TRUE) |>
    sort() |>
    dput()
Warning in system("find /usr/local/texlive/texmf-dist/tex/latex -maxdepth 1 -type d -printf \"%f\n\"", : running command 'find /usr/local/texlive/texmf
"' had status 1
character(0)
c("ae", "amsfonts", "amsmath", "atveryend", "auxhook", "base", "bookmark", "cascadia-code", "cjk", "cjk-ko", "epstopdf-pkg", "etoolbox", "euenc", "fancyvrb", "fira",
"firstaid", "fonts-tlwg", "fontspec", "framed", "geometry", "graphics", "graphics-cfg", "graphics-def", "hycolor", "hyperref", "inconsolata", "koma-script", "kvoptions",
"kvsetkeys", "l3backend", "l3backend", "l3packages", "latex", "latexconfig", "letltxmacro", "listings", "lm", "mdwtools", "parskip", "refcount", "rerunfilecheck", "roboto",
"stmaryrd", "tex-ini-files", "tikzfill", "tipa", "tools", "unicode-math", "url", "xcolor", "xkeyval", "xpatch", "zapfding")
find /usr/share/texlive -type d -iname "roboto"
find /usr/local/texlive -type d -iname "roboto"
"find /usr/share/texlive -type d -iname \"roboto\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("/usr/share/texlive/texmf-dist/fonts/type1/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/enc/dvips/roboto",
  "/usr/share/texlive/texmf-dist/fonts/vf/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/map/dvips/roboto",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/truetype/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/tfm/google/roboto",
  "/usr/share/texlive/texmf-dist/tex/latex/roboto")
"find /usr/local/texlive -type d -iname \"roboto\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"roboto\"", intern = TRUE): running command 'find
/usr/local/texlive -type d -iname "roboto" had status 1
c("")
find /usr/share/texlive -type d -iname "cascadia*code"
find /usr/local/texlive -type d -iname "cascadia*code"
"find /usr/share/texlive -type d -iname \"cascadia*code\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("")
"find /usr/local/texlive -type d -iname \"cascadia*code\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"cascadia*code\"", : running command 'find
/usr/local/texlive -type d -iname "cascadia*code" | had status 1
c("")
##@ find -type d fonts
## find /usr/share/texlive -type d -iname "font[s ]"
\#\# find /usr/local/texlive -type d -iname "font[s ]"
"find /usr/share/texlive -type d -iname \"font[s ]\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("/usr/share/texlive/texmf-dist/fonts",
  "/usr/share/texlive/texmf-dist/tex/csplain/fonts")
"find /usr/local/texlive -type d -iname \"font[s ]\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"font[s ]\"", : running command 'find /usr/local/texlive
-type d -iname "font[s ]"' had status 1
c("")
c("/usr/local/texlive/texmf-dist/tex/context/fonts", "/usr/local/texlive/texmf-dist/metapost/context/fonts", "/usr/local/texlive/texmf-dist/fonts")\\
ls -F /usr/share/texlive/texmf-dist/fonts
ls -F /usr/local/texlive/texmf-dist/fonts
"ls -F /usr/share/texlive/texmf-dist/fonts" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("afm/",
  "cmap/",
  "enc/",
  "lig/",
```

```
"map/",
  "misc/",
  "ofm/",
  "opentype/",
  "ovf/",
  "ovp/",
  "pk/",
  "sfd/",
  "source/",
  "tfm/",
  "truetype/",
  "type1/",
  "type3/",
  "vf/")
"ls -F /usr/local/texlive/texmf-dist/fonts" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts", intern = TRUE): running command 'ls -F
/usr/local/texlive/texmf-dist/fonts' had status 2
c("")
```

c("afm/", "cid/", "cmap/", "enc/", "map/", "misc/", "opentype/", "pk/", "source/", "tfm/", "type1/", "vf/")

ls -F /usr/share/texlive/texmf-dist/fonts/opentype

ls -F /usr/local/texlive/texmf-dist/fonts/opentype

```
"ls -F /usr/share/texlive/texmf-dist/fonts/opentype" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("adobe/",
  "arkandis/",
  "gnome/",
  "google/",
  "gust/",
  "huerta/",
  "ibm/",
  "iginomarini/",
  "impallari/",
  "kosch/",
  "novel/"
  "nowacki/",
  "omnibus-type/",
  "public/",
  "rozynski/")
"ls -F /usr/local/texlive/texmf-dist/fonts/opentype" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/opentype", : running command 'ls -F
/usr/local/texlive/texmf-dist/fonts/opentype' had status 2
c("")
```

c("google/", "public/")

ls - F / usr/share/texlive/texmf-dist/fonts/opentype/public

```
"ls -F /usr/share/texlive/texmf-dist/fonts/opentype/public" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("Asana-Math/",
  "algolrevived/",
  "almfixed/",
  "antt/",
  "baskervaldx/",
  "baskervillef/"
  "beuron/",
  "ccicons/",
  "chivo/",
  "clara/",
  "cm-unicode/",
  "cochineal/",
  "coelacanth/",
  "countriesofeurope/",
  "cyklop/",
  "dantelogo/",
  "domitian/",
  "drm/",
  "ebgaramond/",
  "erewhon/",
  "erewhon-math/",
  "fandol/",
  "fbb/",
  "fdsymbol/",
  "fetamont/",
```

```
"fira/",
  "firamath/",
  "fontawesome/",
  "fontawesome5/",
  "fonts-churchslavonic/",
  "fonts-tlwg/",
  "fourier/",
  "frederika2016/",
  "garamond-libre/",
  "garamond-math/",
  "gfsartemisia/",
  "gfsbaskerville/",
  "gfsbodoni/",
  "gfscomplutum/",
  "gfsdidot/",
  "gfsdidotclassic/",
  "gfsneohellenic/",
  "gfsneohellenicmath/",
  "gfsporson/",
  "gfssolomos/",
  "gnu-freefont/",
  "haranoaji/",
  "haranoaji-extra/",
  "heuristica/",
  "inconsolata/",
  "inriafonts/",
  "kerkis/",
  "libertine/",
  "libertinus-fonts/",
  "linguisticspro/",
  "logix/",
  "mdsymbol/",
  "miama/",
  "missaali/",
  "mnsymbol/",
  "montserrat/",
  "newcomputermodern/",
  "newpx/",
  "newtx/",
  "nimbus15/",
  "ocr-b-outline/",
  "oldstandard/",
  "phaistos/",
  "philokalia/",
  "playfair/",
  "punknova/",
  "qualitype/",
  "rosario/",
  "scholax/",
  "semaphor/",
  "shobhika/",
  "skaknew/",
  "step/",
  "stix/",
  "stix2-otf/",
  "svrsymbols/",
  "tempora/",
  "txfontsb/",
  "umtypewriter/",
  "xcharter/",
  "xits/",
  "yinit-otf/")
"ls -F /usr/local/texlive/texmf-dist/fonts/opentype/public" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/opentype/public", : running command 'ls -F
/usr/local/texlive/texmf-dist/fonts/opentype/public' had status 2
```

ls -F /usr/local/texlive/texmf-dist/fonts/opentype/public c("cascadia-code/", "context-companion-fonts/", "fira/", "fonts-tlwg/", "inconsolata/", "lm/", "lm-math/")

ls -F /usr/share/texlive/texmf-dist/fonts/opentype/google

```
"ls -F /usr/share/texlive/texmf-dist/fonts/opentype/google" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("roboto/")

"ls -F /usr/local/texlive/texmf-dist/fonts/opentype/google" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/opentype/google", : running command 'ls -F
```

```
/usr/local/texlive/texmf-dist/fonts/opentype/google' had status 2 c("")
```

ls -F /usr/local/texlive/texmf-dist/fonts/opentype/google c("roboto/")

ls -F /usr/share/texlive/texmf-dist/fonts/opentype/google/roboto

```
"ls -F /usr/share/texlive/texmf-dist/fonts/opentype/google/roboto" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("Roboto-Black.otf",
  "Roboto-BlackItalic.otf",
  "Roboto-Bold.otf",
  "Roboto-BoldItalic.otf",
  "Roboto-Italic.otf",
  "Roboto-Light.otf",
  "Roboto-LightItalic.otf",
  "Roboto-Medium.otf",
  "Roboto-MediumItalic.otf",
  "Roboto-Regular.otf",
  "Roboto-Thin.otf",
  "Roboto-ThinItalic.otf",
  "RobotoCondensed-Bold.otf",
  "RobotoCondensed-BoldItalic.otf",
  "RobotoCondensed-Italic.otf",
  "RobotoCondensed-Light.otf",
  "RobotoCondensed-LightItalic.otf",
  "RobotoCondensed-Regular.otf",
  "RobotoMono-Bold.otf",
  "RobotoMono-BoldItalic.otf",
  "RobotoMono-Italic.otf",
  "RobotoMono-Light.otf",
  "RobotoMono-LightItalic.otf",
  "RobotoMono-Medium.otf",
  "RobotoMono-MediumItalic.otf",
  "RobotoMono-Regular.otf",
  "RobotoMono-Thin.otf",
  "RobotoMono-ThinItalic.otf",
  "RobotoSlab-Bold.otf",
  "RobotoSlab-Light.otf",
  "RobotoSlab-Regular.otf",
  "RobotoSlab-Thin.otf")
"ls -F /usr/local/texlive/texmf-dist/fonts/opentype/google/roboto" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/opentype/google/roboto", : running command 'ls -F
/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto' had status 2
c("")
```

Is -F /usr/local/texlive/texmf-dist/fonts/opentype/google/roboto c("Roboto-BlackItalic.otf", "Roboto-Black.otf", "Roboto-BoldItalic.otf", "Roboto-BoldItalic.otf", "Roboto-BoldItalic.otf", "Roboto-Condensed-BoldItalic.otf", "Roboto-Condensed-Light.otf", "Roboto-Condensed-Light.otf", "Roboto-Condensed-Light.otf", "Roboto-Medium.otf", "Roboto-Medium.otf", "Roboto-Medium.otf", "Roboto-Medium.otf", "Roboto-Mono-Bold.otf", "Roboto-Mono-Bold.otf", "Roboto-Mono-Light.otf", "Roboto-Mono-Light.otf", "Roboto-Mono-Hillic.otf", "Roboto-Mono-Hillic.otf", "Roboto-Mono-Hillic.otf", "Roboto-Regular.otf", "Roboto-Serif-BlackItalic.otf", "Roboto-Regular.otf", "Roboto-Serif-BlackItalic.otf", "Roboto-Regular.otf", "Roboto-Serif-BlackItalic.otf", "Roboto-Regular.otf", "Roboto-Serif-BlackItalic.otf", "Roboto-Regular.otf", "Roboto-Serif-Black.otf", "Roboto-Regular.otf", "Roboto-Serif-Black.otf", "Roboto-Regular.otf", "Roboto-Serif-Condensed-Black.otf", "Roboto-Regular.otf", "Roboto-Serif-Condensed-Black.otf", "Roboto-Serif-Condensed-Black.otf", "Roboto-Serif-Condensed-Black.otf", "Roboto-Serif-Condensed-Black.otf", "Roboto-Serif-Condensed-Extra Bold.otf", "Roboto-Serif-Condensed-Extra Bold.otf", "Roboto-Serif-Condensed-Extra Bold.otf", "Roboto-Serif-Condensed-Extra Bold.otf", "Roboto-Serif-Condensed-Extra Bold.otf", "Roboto-Serif-Condensed-Medium.otf", "Roboto-Serif-Condensed-Medium.otf", "Roboto-Serif-Condensed-Medium.otf", "Roboto-Serif-Condensed-Thin.otf", "Roboto-Serif-Condensed-Thin.otf", "Roboto-Serif-Extra Bold.otf", "Roboto-Serif-

ls -F /usr/share/texlive/texmf-dist/fonts/truetype

ls -F /usr/local/texlive/texmf-dist/fonts/truetype

```
"ls -F /usr/share/texlive/texmf-dist/fonts/truetype" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("aajohan/",
  "ascender/",
  "bh/",
  "catharsis/",
  "google/",
  "huerta/",
  "impallari/",
  "intel/",
  "muhafara/"
  "ndiscovered/",
  "paratype/",
  "public/",
  "sorkin/",
```

```
"typoland/")

"ls -F /usr/local/texlive/texmf-dist/fonts/truetype" |>
        system(intern = TRUE) |>
        env1$f_vec.dput_line_by_line()

Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/truetype", : running command 'ls -F
/usr/local/texlive/texmf-dist/fonts/truetype' had status 2
c("")
c("")
```

ls -F /usr/share/texlive/texmf-dist/fonts/truetype/public

```
"ls -F /usr/share/texlive/texmf-dist/fonts/truetype/public" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("Asana-Math/",
  "academicons/",
  "alkalami/",
  "almendra/",
  "almfixed/",
  "amiri/",
  "anonymouspro/",
  "arphic-ttf/",
  "baekmuk/",
  "belleek/",
  "crimsonpro/",
  "cuprum/",
  "dejavu/",
  "fonetika/",
  "fontmfizz/",
  "fonts-churchslavonic/",
  "forum/",
  "gentium-tug/",
  "gnu-freefont/",
  "gregoriotex/",
  "hmtrump/",
  "inriafonts/",
  "ipaex/",
  "junicode/",
  "lato/",
  "lexend/",
  "logix/",
  "marcellus/",
  "padauk/",
  "poiretone/",
  "theanodidot/",
  "theanomodern/",
  "theanooldstyle/",
  "typicons/",
  "unfonts-core/"
  "unfonts-extra/")
"ls -F /usr/local/texlive/texmf-dist/fonts/truetype/public" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/truetype/public", : running command 'ls -F
/usr/local/texlive/texmf-dist/fonts/truetype/public' had status 2
c("")
```

- ls -F /usr/local/texlive/texmf-dist/fonts/truetype/public
- ls -F /usr/share/texlive/texmf-dist/fonts/truetype/google

- ls -F /usr/local/texlive/texmf-dist/fonts/truetype/google
- $ls \ \textbf{-} F \ / usr/share/texlive/texmf-dist/fonts/truetype/google/roboto$

```
"ls -F /usr/share/texlive/texmf-dist/fonts/truetype/google/roboto" |>
        system(intern = TRUE) |>
        env1$f_vec.dput_line_by_line()
c("Roboto-Black.ttf@",
    "Roboto-BlackItalic.ttf@",
    "Roboto-Bold.ttf@",
    "Roboto-BoldItalic.ttf@",
    "Roboto-Italic.ttf@",
    "Roboto-Light.ttf@",
    "Roboto-LightItalic.ttf@",
    "Roboto-Medium.ttf@",
    "Roboto-MediumItalic.ttf@",
    "Roboto-Regular.ttf@",
    "Roboto-Thin.ttf@",
    "Roboto-ThinItalic.ttf@",
    "RobotoCondensed-Bold.ttf@",
    "RobotoCondensed-BoldItalic.ttf@",
    "RobotoCondensed-Italic.ttf@",
    "RobotoCondensed-Light.ttf@",
    "RobotoCondensed-LightItalic.ttf@",
    "RobotoCondensed-Regular.ttf@")
"ls -F /usr/local/texlive/texmf-dist/fonts/truetype/google/roboto" |>
        system(intern = TRUE) |>
        env1$f_vec.dput_line_by_line()
Warning in system("ls -F /usr/local/texlive/texmf-dist/fonts/truetype/google/roboto", : running command 'ls -F
/usr/local/texlive/texmf-dist/fonts/truetype/google/roboto' had status 2
c("")
ls -F /usr/local/texlive/texmf-dist/fonts/truetype/google/roboto ##@ find -type d/f fontname
### find /usr/share/texlive -type d -iname "roboto"
### find /usr/local/texlive -type d -iname "roboto"
"find /usr/share/texlive -type d -iname \"*roboto*\"" |>
        system(intern = TRUE) |>
        env1$f_vec.dput_line_by_line()
c("/usr/share/texlive/texmf-dist/fonts/type1/google/roboto",
    "/usr/share/texlive/texmf-dist/fonts/enc/dvips/roboto",
    "/usr/share/texlive/texmf-dist/fonts/vf/google/roboto",
    "/usr/share/texlive/texmf-dist/fonts/map/dvips/roboto",
    "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto",
    "/usr/share/texlive/texmf-dist/fonts/truetype/google/roboto",
    "/usr/share/texlive/texmf-dist/fonts/tfm/google/roboto",
    "/usr/share/texlive/texmf-dist/tex/latex/roboto")
"find /usr/local/texlive -type d -iname \"*roboto*\"" |>
        system(intern = TRUE) |>
       env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"*roboto*\"", : running command 'find /usr/local/texlive
-type d -iname "*roboto*"' had status 1
c("")
c ("usr/local/texlive/texmf-dist/fonts/enc/dvips/roboto", "usr/local/texlive/texmf-dist/fonts/enc/dvips/roboto", "usr/local/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive/texlive
```

"/usr/local/texlive/texmf-dist/fonts/type1/google/roboto", "/usr/local/texlive/texmf-dist/fonts/vf/google/roboto", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto", "/usr/local/texlive/texmf-dist/fonts/tfm/google/roboto")

find /usr/share/texlive -type f -iname "roboto"

```
"find /usr/share/texlive -type d -iname \"*roboto*\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("/usr/share/texlive/texmf-dist/fonts/type1/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/enc/dvips/roboto",
  "/usr/share/texlive/texmf-dist/fonts/vf/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/map/dvips/roboto",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/truetype/google/roboto",
  "/usr/share/texlive/texmf-dist/fonts/tfm/google/roboto",
  "/usr/share/texlive/texmf-dist/tex/latex/roboto")
"find /usr/local/texlive -type d -iname \"*roboto*\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"*roboto*\"", : running command 'find /usr/local/texlive
-type d -iname "*roboto*" had status 1
c("")
```

find /usr/local/texlive -type f -iname "roboto" c("/usr/local/texlive/texmf-dist/tex/latex/roboto", "/usr/local/texlive/texmf-dist/fonts/enc/dvips/roboto", "/usr/local/texlive/texmf-dist/fonts/map/dvips/roboto", "/usr/local/texlive/texmf-dist/fonts/type1/google/roboto", "/usr/local/texlive/texmf-dist/fonts/vf/google/roboto", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto", "/usr/local/texlive/texmf-dist/fonts/tfm/google/roboto")

```
"find /usr/share/texlive -type f -iname \"*roboto*mono*.?tf\"" |>
   system(intern = TRUE) |>
   env1$f_vec.dput_line_by_line()
"/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-LightItalic.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-ThinItalic.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Medium.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Light.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Italic.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Thin.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Regular.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Bold.otf",
  "/usr/share/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-MediumItalic.otf")
"find /usr/local/texlive -type f -iname \"*roboto*mono*.?tf\"" |>
   system(intern = TRUE) |>
   env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type f -iname \"*roboto*mono*.?tf\"", : running command 'find
/usr/local/texlive -type f -iname "*roboto*mono*.?tf" | had status 1
```

find /usr/local/texlive-type f-iname "robotomono*.?tf" c("/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Light.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Medium.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Medium.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Bold.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-ThinItalic.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Regular.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Thin.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Italic.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/google/roboto/RobotoMono-Italic.otf")

find /usr/share/texlive -type d -iname "inconsolata"

find /usr/local/texlive -type d -iname "inconsolata"

```
"find /usr/share/texlive -type d -iname \"*inconsolata*\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("/usr/share/texlive/texmf-dist/fonts/type1/public/inconsolata",
    "/usr/share/texlive/texmf-dist/fonts/enc/dvips/inconsolata",
    "/usr/share/texlive/texmf-dist/fonts/map/dvips/inconsolata",
    "/usr/share/texlive/texmf-dist/fonts/opentype/public/inconsolata",
    "/usr/share/texlive/texmf-dist/fonts/tfm/public/inconsolata",
    "/usr/share/texlive/texmf-dist/fonts/tfm/public/inconsolata",

"find /usr/local/texlive -type d -iname \"*inconsolata*\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"*inconsolata*\"", : running command 'find
/usr/local/texlive -type d -iname "*inconsolata*" had status 1
    c("")
```

find /usr/share/texlive -type f -iname "inconsolata.?tf"

```
"find /usr/share/texlive -type f -iname \"*inconsolata*.?tf\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("/usr/share/texlive/texmf-dist/fonts/opentype/public/inconsolata/InconsolataV-Regular.otf",
    "/usr/share/texlive/texmf-dist/fonts/opentype/public/inconsolataV-Regular.otf",
    "/usr/share/texlive/texmf-dist/fonts/opentype/public/inconsolataV-Bold.otf",
    "/usr/share/texlive/texmf-dist/fonts/opentype/public/inconsolata/InconsolataV-Bold.otf")

"find /usr/local/texlive -type f -iname \"*inconsolata*.?tf\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type f -iname \"*inconsolata*.?tf\"", : running command 'find
/usr/local/texlive -type f -iname "*inconsolata*.?tf" had status 1
c("")
```

find /usr/local/texlive -type f -iname "inconsolata.?tf" c("/usr/local/texlive/texmf-dist/fonts/opentype/public/inconsolata/Inconsolata/InconsolataN-Bold.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/public/inconsolata/InconsolataN-Bold.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/public/inconsolata/InconsolataN-Regular.otf", "/usr/local/texlive/texmf-dist/fonts/opentype/public/inconsolata/Inconsolatai-In

find /usr/share/texlive -type d -iname "cascadia*code"

find /usr/local/texlive -type d -iname "cascadia*code"

```
"find /usr/share/texlive -type d -iname \"cascadia*code\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("")

"find /usr/local/texlive -type d -iname \"cascadia*code\"" |>
    system(intern = TRUE) |>
```

```
env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type d -iname \"cascadia*code\"", : running command 'find
/usr/local/texlive -type d -iname "cascadia*code"' had status 1
c("")
```

find /usr/share/texlive -type f -iname "cascadia.?tf"

```
"find /usr/share/texlive -type f -iname \"*cascadia*.?tf\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
c("")

"find /usr/local/texlive -type f -iname \"*cascadia*.?tf\"" |>
    system(intern = TRUE) |>
    env1$f_vec.dput_line_by_line()
Warning in system("find /usr/local/texlive -type f -iname \"*cascadia*.?tf\"", : running command 'find /usr/local/texlive -type f -iname "*cascadia*.?tf" had status 1
c("")
```

find /usr/local/texlive -type f -iname "cascadia.?tf" #@@ END —