Status for build mrgsolve_0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55 (/status/mrgsolve_0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55), package mrgsolve, version 0.8.5

Package: mrgsolve Version: 0.8.5 Status: success

Duration: 18 minutes 29.8 seconds

Preparing

- 1 #> Started by user r-hub Jenkins admin
- 2 #> Building remotely on 10.2.0.5-f5139560 (slave swarm linux) in workspace /home/ubuntu/workspace/mrgsolve 0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55
- 3 #> [mrgsolve_0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55] \$ /bin/sh -xe /tmp/hudson5957672568127363276.sh
- 4 date -u +%Y-%m-%dT%H:%M:%SZ
- 5 wget https://builder.r-hub.io/build/in-progress/mrgsolve_0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55/2017-03-14T16:12:19Z
- 6 #> --2017-03-14 16:12:19-- https://builder.r-hub.io/build/in-progress/mrgsolve_0.8.5.tar.gze20d3dd72d1d43cf8248bc0c0bf26a55/2017-03-14T16:12:19Z
- #> Resolving builder.r-hub.io (builder.r-hub.io)... 54.67.48.72
- 8 #> Connecting to builder.r-hub.io (builder.r-hub.io)|54.67.48.72|:443... connected.
- 9 #> HTTP request sent, awaiting response... 200 OK
- #> Syntax error in Set-Cookie: r-hub frontend=s%3A4622860a-fe7f-4161-aa33d91ab065f07c.1diiaiTgbg%2BtHXpW8qp5x%2FdM1FLp2N2xFgpPkezfZcw; Path=/; Expires=Wed, 15 Mar 2017 02:19:22 GMT at
 position 0.
- 11 #> Length: unspecified [application/json]
- 12 #> Saving to: '2017-03-14T16:12:19Z'
- 13 #> 0K 1.43M=0s
- 14 #> 2017-03-14 16:12:19 (1.43 MB/s) '2017-03-14T16:12:19Z' saved [15]
- 15 docker run --user docker --rm rhub/rocker-gcc-san bash -c echo \$RHUB PLATFORM
- 16 export RHUB_PLATFORM=linux-x86_64-debian-gcc

Downloading and unpacking package file

- 19 wget -0 mrgsolve_0.8.5.tar.gz http://builder.r-hub.io/file/aa3d4d6c6c8a44c98e31aa31bff034f2
- 20 #> --2017-03-14 16:12:20-- http://builder.r-hub.io/file/aa3d4d6c6c8a44c98e31aa31bff034f2
- 21 #> Resolving builder.r-hub.io (builder.r-hub.io)... 54.67.48.72
- 22 #> Connecting to builder.r-hub.io (builder.r-hub.io)|54.67.48.72|:80... connected.
- 23 #> HTTP request sent, awaiting response... 301 Moved Permanently
- 24 #> Location: https://builder.r-hub.io:443/file/aa3d4d6c6c8a44c98e31aa31bff034f2 [following]
- 25 #> --2017-03-14 16:12:20-- https://builder.r-hub.io/file/aa3d4d6c6c8a44c98e31aa31bff034f2
- 26 #> Connecting to builder.r-hub.io (builder.r-hub.io)|54.67.48.72|:443... connected.
- 27 #> HTTP request sent, awaiting response... 200 OK
- 28 #> Syntax error in Set-Cookie: r-hub frontend=s%3Ad5f3648c-b1e1-4f29-8619-

1f58f9f58e17.eO9Tgg0dAOt35g1hW61MhL9StFz%2Fs5PLj4yEHFRVzNM; Path=/; Expires=Wed, 15 Mar 2017 02:19:23 GMT at position 0.

- 9 #> Length: 348961 (341K) [application/octet-stream]
- 30 #> Saving to: 'mrgsolve_0.8.5.tar.gz'
- 31 #> 0K 14% 12.9M 0s
- 32 #> 50K 29% 12.2M 0s
- 33
 #> 100K
 44% 23.1M 0s

 34
 #> 150K
 58% 12.3M 0s

- 37 #> 300K 100% 19.3M=0.02s
- 38 #> 2017-03-14 16:12:20 (15.2 MB/s) 'mrgsolve_0.8.5.tar.gz' saved [348961/348961]
- 39 tar tzf+R-HUB-R-HUB-R-HUBgrep ^[^/]*/DESCRIPTION\$
- 40 #> mrgsolve 0.8.5.tar.gz
- 41 DESC=mrgsolve/DESCRIPTION
- 42 tar xzf mrgsolve_0.8.5.tar.gz mrgsolve/DESCRIPTION

Querying system requirements

```
45 Rscript -e library(sysreqs); cat(sysreq commands("mrgsolve/DESCRIPTION"))
  46
       sysreqs=export DEBIAN_FRONTEND=noninteractive; apt-get -y update && apt-get install -y libxml2-dev pandoc pandoc-
       citeproc
  47 rm -rf mrgsolve_0.8.5.tar.gz mrgsolve/DESCRIPTION
Installing system requirements
      [ ! -z export DEBIAN_FRONTEND=noninteractive; apt-get -y update && apt-get install -y libxml2-dev pandoc pandoc-
      echo export DEBIAN_FRONTEND=noninteractive; apt-get -y update && apt-get install -y libxml2-dev pandoc pandoc-
  52
       pwd
  53 docker run -d --user root --name mrgsolve 0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55-1 -v
       /home/ubuntu/workspace/mrgsolve_0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55/sysreqs.sh:/root/sysreqs.sh
       rhub/rocker-gcc-san bash /root/sysreqs.sh
      #> 3b7e9d19f36e6436f623312096ed053b900fb98e2817b377ed3b23e3d440206b
       docker attach mrgsolve_0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55-1
  56
       #> Get:1 http://cdn-fastly.deb.debian.org/debian testing InRelease [184 kB]
       #> Get:2 http://cdn-fastly.deb.debian.org/debian testing-updates InRelease [88.5 kB]
  58 #> Get:3 http://security.debian.org testing/updates InRelease [62.9 kB]
  59 #> Get:4 http://cdn-fastly.deb.debian.org/debian testing/main amd64 Packages.diff/Index [27.9 kB]
  60 #> Get:4 http://cdn-fastly.deb.debian.org/debian testing/main amd64 Packages.diff/Index [27.9 kB]
      #> Get:5 http://cdn-fastly.deb.debian.org/debian testing/main amd64 Packages [9,509 kB]
       #> Get:6 http://cdn-fastly.deb.debian.org/debian sid InRelease [231 kB]
  63  #> Get:7 http://cdn-fastly.deb.debian.org/debian sid/main amd64 Packages.diff/Index [27.9 kB]
  64  #> Get:7 http://cdn-fastly.deb.debian.org/debian sid/main amd64 Packages.diff/Index [27.9 kB]
  65  #> Get:8 http://cdn-fastly.deb.debian.org/debian sid/main amd64 Packages [10.0 MB]
      #> Fetched 20.1 MB in 2s (6,921 kB/s)
  67  #> Reading package lists...
  68  #> Reading package lists...
  69 #> Building dependency tree...
  70  #> Reading state information...
  71
      #> The following packages were automatically installed and are no longer required:
       #> g++-5 gfortran-5 libgfortran-5-dev libicu55 libpsl0
  73 #> Use 'apt autoremove' to remove them.
       #> The following additional packages will be installed:
  75 #> libbibutils2 libghc-pandoc-citeproc-data liblua5.1-0 libluajit-5.1-2
  76
      #> libluajit-5.1-common libxml2 libyaml-0-2 pandoc-data
  77
      #> Suggested packages:
  78 #> texlive-xetex texlive-luatex wkhtmltopdf
  79  #> Recommended packages:
  80
      #> xml-core
       #> The following NEW packages will be installed:
       #> libbibutils2 libghc-pandoc-citeproc-data liblua5.1-0 libluajit-5.1-2
      #> libluajit-5.1-common libxml2-dev libyaml-0-2 pandoc pandoc-citeproc
  84 #> pandoc-data
  85  #> The following packages will be upgraded:
       #> libxml2
       #> 1 upgraded, 10 newly installed, 0 to remove and 431 not upgraded.
      #> Need to get 19.3 MB of archives.
       #> After this operation, 141 MB of additional disk space will be used.
      #> Get:1 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libxml2 amd64 2.9.4+dfsg1-2.2 [919 kB]
       #> Get:2 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libbibutils2 amd64 4.12-5+b2 [212 kB]
       #> Get:3 http://cdn-fastly.deb.debian.org/debian testing/main amd64 liblua5.1-0 amd64 5.1.5-8.1+b2 [111 kB]
  93
      #> Get:4 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libluajit-5.1-common all 2.0.4+dfsg-1 [36.6
       kB]
  94
      #> Get:5 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libluajit-5.1-2 amd64 2.0.4+dfsg-1+b1 [207 kB]
       #> Get:6 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libxml2-dev amd64 2.9.4+dfsg1-2.2 [811 kB]
       #> Get:7 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libyaml-0-2 amd64 0.1.7-2 [47.6 kB]
       #> Get:8 http://cdn-fastly.deb.debian.org/debian testing/main amd64 pandoc-data all 1.17.2~dfsg-3 [265 kB]
       #> Get:9 http://cdn-fastly.deb.debian.org/debian testing/main amd64 pandoc amd64 1.17.2~dfsg-3 [9,104 kB]
       #> Get:10 http://cdn-fastly.deb.debian.org/debian testing/main amd64 libghc-pandoc-citeproc-data all 0.10.2.2-1
       #> Get:11 http://cdn-fastly.deb.debian.org/debian testing/main amd64 pandoc-citeproc amd64 0.10.2.2-1+b2 [7,561
 100
       kB]
 101  #> debconf: delaying package configuration, since apt-utils is not installed
 102  #> Fetched 19.3 MB in 0s (23.9 MB/s)
103  #> (Reading database ...
 104 #> (Reading database ... 5%
 105 #> (Reading database ... 10%
 106
      #> (Reading database ... 15%
 107
       #> (Reading database ... 20%
 108
      #> (Reading database ... 25%
```

109 #> (Reading database ... 30% 110 #> (Reading database ... 35%

```
111  #> (Reading database ... 40%
  112  #> (Reading database ... 45%
  113 #> (Reading database ... 50%
  114 #> (Reading database ... 55%
  115 #> (Reading database ... 60%
 116  #> (Reading database ... 65% 117  #> (Reading database ... 70%
  118  #> (Reading database ... 75%
  119 #> (Reading database ... 80%
  120 #> (Reading database ... 85%
  121 #> (Reading database ... 90%
  122
          #> (Reading database ... 95%
  123  #> (Reading database ... 100%
  124 #> (Reading database ... 102983 files and directories currently installed.)
  #> Preparing to unpack .../00-libxml2_2.9.4+dfsg1-2.2_amd64.deb ...
  126
          #> Unpacking libxml2:amd64 (2.9.4+dfsg1-2.2) over (2.9.4+dfsg1-2) ...
  127
          #> Selecting previously unselected package libbibutils2.
  #> Preparing to unpack .../01-libbibutils2_4.12-5+b2_amd64.deb ...
  129 #> Unpacking libbibutils2 (4.12-5+b2) ...
  130  #> Selecting previously unselected package liblua5.1-0:amd64.
  131
          #> Preparing to unpack .../02-liblua5.1-0_5.1.5-8.1+b2_amd64.deb ...
  132
          #> Unpacking liblua5.1-0:amd64 (5.1.5-8.1+b2) ..
  #> Selecting previously unselected package libluajit-5.1-common.
          #> Preparing to unpack .../03-libluajit-5.1-common_2.0.4+dfsg-1_all.deb ...
  135 #> Unpacking libluajit-5.1-common (2.0.4+dfsg-1) ...
  136
          #> Selecting previously unselected package libluajit-5.1-2:amd64.
  137
          #> Preparing to unpack .../04-libluajit-5.1-2_2.0.4+dfsg-1+b1_amd64.deb ...
  138  #> Unpacking libluajit-5.1-2:amd64 (2.0.4+dfsg-1+b1) ...
  #> Selecting previously unselected package libxml2-dev:amd64.
  140 #> Preparing to unpack .../05-libxml2-dev_2.9.4+dfsg1-2.2_amd64.deb ...
  141
          #> Unpacking libxml2-dev:amd64 (2.9.4+dfsg1-2.2) ...
  142
          #> Selecting previously unselected package libyaml-0-2:amd64.
  143  #> Preparing to unpack .../06-libyaml-0-2_0.1.7-2_amd64.deb ...
  144  #> Unpacking libyaml-0-2:amd64 (0.1.7-2) ...
  145
          #> Selecting previously unselected package pandoc-data.
  146
          #> Preparing to unpack .../07-pandoc-data_1.17.2~dfsg-3_all.deb ...
  147
          #> Unpacking pandoc-data (1.17.2~dfsg-3) ...
  148  #> Selecting previously unselected package pandoc.
  149 #> Preparing to unpack .../08-pandoc 1.17.2~dfsg-3 amd64.deb ...
  150  #> Unpacking pandoc (1.17.2~dfsg-3) ...
  151
          #> Selecting previously unselected package libghc-pandoc-citeproc-data.
          #> Preparing to unpack .../09-libghc-pandoc-citeproc-data_0.10.2.2-1_all.deb ...
  152
  #> Unpacking libghc-pandoc-citeproc-data (0.10.2.2-1) ...
  154 #> Selecting previously unselected package pandoc-citeproc.
  155 #> Preparing to unpack .../10-pandoc-citeproc_0.10.2.2-1+b2_amd64.deb ...
  156
          #> Unpacking pandoc-citeproc (0.10.2.2-1+b2) ...
  157
          #> Setting up libbibutils2 (4.12-5+b2) ...
  158  #> Setting up libluajit-5.1-common (2.0.4+dfsg-1) ...
  159 #> Setting up pandoc-data (1.17.2~dfsg-3) ...
  160  #> Setting up libghc-pandoc-citeproc-data (0.10.2.2-1) ...
  161
         #> Setting up libxml2:amd64 (2.9.4+dfsg1-2.2) ...
          #> Setting up libxml2-dev:amd64 (2.9.4+dfsg1-2.2) ...
  162
  163  #> Setting up libyaml-0-2:amd64 (0.1.7-2) ...
  164 #> Processing triggers for libc-bin (2.24-3) ...
  165  #> Setting up libluajit-5.1-2:amd64 (2.0.4+dfsg-1+b1) ...
         #> Processing triggers for man-db (2.7.5-1) ...
  166
  167
          #> Setting up liblua5.1-0:amd64 (5.1.5-8.1+b2) ...
  168  #> Setting up pandoc (1.17.2~dfsg-3) ...
  169
          #> Setting up pandoc-citeproc (0.10.2.2-1+b2) ...
  170 #> Processing triggers for libc-bin (2.24-3) ...
          docker commit mrgsolve 0.8.5.tar.gz-e20d3dd72d1d43cf8248bc0c0bf26a55-1
          newimage=sha256:5eeef1619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120
  172
  173
          tempfile
  174
          env=/tmp/filefCA1RN
  175
          echo url=http://builder.r-hub.io/file/aa3d4d6c6c8a44c98e31aa31bff034f2
  176
          echo package=mrgsolve_0.8.5.tar.gz
  177
          echo checkArgs=--as-cran
          echo _R_CHECK_FORCE_SUGGESTS_=true
  178
Starting Docker container
          docker run -i --user docker --env-file /tmp/filefCA1RN --name mrgsolve_0.8.5.tar.gz-
           e20d3dd72d1d43cf8248bc0c0bf26a55-2\ sha256:5eeef1619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619798baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c893b8517b50b62a3512637dd01d7e9190f120\ /bin/basha2661619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c8950b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c8950619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619708baeb9fc2250e82c89b861619608baeb9fc2250e82c89b861619608baeb9fc2250e82c89b861619608baeb9fc2250e82c89b861619608baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc22508baeb9fc
          #> ls: cannot access '/opt/R-*': No such file or directory
```

```
183
     #> R Under development (unstable) (2016-09-18 r71304) -- "Unsuffered Consequences"
184
     #> Copyright (C) 2016 The R Foundation for Statistical Computing
185  #> Platform: x86_64-pc-linux-gnu (64-bit)
186  #> R is free software and comes with ABSOLUTELY NO WARRANTY.
187
     #> You are welcome to redistribute it under certain conditions.
188
     #> Type 'license()' or 'licence()' for distribution details.
189
     #> Natural language support but running in an English locale
190  #> R is a collaborative project with many contributors.
191 #> Type 'contributors()' for more information and
192 #> 'citation()' on how to cite R or R packages in publications.
193
     #> Type 'demo()' for some demos, 'help()' for on-line help, or
     #> 'help.start()' for an HTML browser interface to help.
194
195  #> Type 'q()' to quit R.
196  #> > source('https://bioconductor.org/biocLite.R')
197
     #> Installing package into '/home/docker/R'
198
     #> (as 'lib' is unspecified)
199
     #> trying URL 'https://bioconductor.org/packages/3.5/bioc/src/contrib/BiocInstaller_1.25.3.tar.gz'
200 #> Content type 'application/x-gzip' length 18091 bytes (17 KB)
201 #> ==============
202 #> downloaded 17 KB
203
     #> * installing *source* package 'BiocInstaller' ...
204
     #> ** R
205 #> ** inst
206  #> ** preparing package for lazy loading
207  #> ** help
     #> *** installing help indices
208
     #> ** building package indices
209
210 \# ** testing if installed package can be loaded
211 #> Bioconductor version 3.5 (BiocInstaller 1.25.3), ?biocLite for help
212 #> * DONE (BiocInstaller)
213
     #> The downloaded source packages are in
     #> '/tmp/RtmpCaDGgw/downloaded_packages'
214
215  #> Bioconductor version 3.5 (BiocInstaller 1.25.3), ?biocLite for help
216 #>>
217 #> >
```

Querying package dependencies

```
219 #> % Total % Received % Xferd Average Speed Time Time Time Current
220  #> Dload Upload Total Spent Left Speed
221 #> 0 0 0 0 0 0 0 0 --:--:- --:-- 0
     #> 0 0 0 0 0 0 0 0 --:--:- 0
223 #> 100 56854 100 56854 0 0 285k 0 --:--:- --:-- 284k
224 #> R Under development (unstable) (2016-09-18 r71304) -- "Unsuffered Consequences"
225  #> Copyright (C) 2016 The R Foundation for Statistical Computing
226 #> Platform: x86 64-pc-linux-gnu (64-bit)
     #> R is free software and comes with ABSOLUTELY NO WARRANTY.
228  #> You are welcome to redistribute it under certain conditions.
229 #> Type 'license()' or 'licence()' for distribution details.
230  #> Natural language support but running in an English locale
231  #> R is a collaborative project with many contributors.
     #> Type 'contributors()' for more information and
233  #> 'citation()' on how to cite R or R packages in publications.
234 #> Type 'demo()' for some demos, 'help()' for on-line help, or
235 #> 'help.start()' for an HTML browser interface to help.
236  #> Type 'q()' to quit R.
     #> > source("install-github.R")$value("mangothecat/remotes")
238  #> Downloading GitHub repo mangothecat/remotes@master
239 #> Installing package into '/home/docker/R'
240 #> (as 'lib' is unspecified)
241 #> * installing *source* package 'remotes' ...
242
     #> ** R
243  #> ** inst
244  #> ** preparing package for lazy loading
245  #> ** help
246
     #> *** installing help indices
     #> ** building package indices
248  #> ** testing if installed package can be loaded
249  #> * DONE (remotes)
250 #> >
251
    #> >
     #> % Total % Received % Xferd Average Speed Time Time Current
253  #> Dload Upload Total Spent Left Speed
254 #> 0 0 0 0 0 0 0 0 --:--:- 0
255 #> 100 178 100 178 0 0 22297 0 --:--:- --:-- 25428
    #> 100 340k 100 340k 0 0 2196k 0 --:--:- --:-- 2196k
```

```
Installing package dependencies
      #> /bin:/usr/local/bin:/usr/bin:/usr/local/games:/usr/games
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer
 260  #> gcc (Debian 6.1.1-11) 6.1.1 20160802
      #> Copyright (C) 2016 Free Software Foundation, Inc.
      #> This is free software; see the source for copying conditions. There is NO
 263  #> warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
 264 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
 265  #> g++ (Debian 6.1.1-11) 6.1.1 20160802
 266
      #> Copyright (C) 2016 Free Software Foundation, Inc.
 267
      #> This is free software; see the source for copying conditions. There is NO
 268 #> warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.
 269 #> Pandoc:
 270 #> /usr/bin/pandoc
 271
      #> -rwxr-xr-x 1 root root 70794632 Nov 12 03:46 /usr/bin/pandoc
      #> -rwxr-xr-x 1 root root 62233992 Nov 1 01:03 /usr/bin/pandoc-citeproc
 273 #> R Under development (unstable) (2016-09-18 r71304) -- "Unsuffered Consequences"
 274  #> Copyright (C) 2016 The R Foundation for Statistical Computing
 275 #> Platform: x86_64-pc-linux-gnu (64-bit)
      #> R is free software and comes with ABSOLUTELY NO WARRANTY.
 277
      #> You are welcome to redistribute it under certain conditions.
 278 #> Type 'license()' or 'licence()' for distribution details.
 279 #> Natural language support but running in an English locale
 280 #> R is a collaborative project with many contributors.
 281
      #> Type 'contributors()' for more information and
 282
      #> 'citation()' on how to cite R or R packages in publications.
 283 #> Type 'demo()' for some demos, 'help()' for on-line help, or
 284 #> 'help.start()' for an HTML browser interface to help.
 285  #> Type 'q()' to quit R.
      #> > remotes::install_local("mrgsolve_0.8.5.tar.gz", dependencies = TRUE, INSTALL_opts = "--build")
      #> Installing 31 packages: assertthat, backports, base64enc, BH, bitops, caTools, crayon, DBI, digest, dplyr,
      evaluate, highr, htmltools, jsonlite, knitr, lattice, lazyeval, markdown, mime, praise, R6, Rcpp, RcppArmadillo,
      rmarkdown, rprojroot, stringi, stringr, testthat, tibble, XML, yaml
      #> Installing packages into '/home/docker/R'
 288
      #> (as 'lib' is unspecified)
 289
      #> trving URL
      'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/assertthat_0.1.tar.gz'
 291
      #> Content type 'application/x-gzip' length 10187 bytes
      #> =========
 293
      #> downloaded 10187 bytes
      #> trving URL
      http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/backports_1.0.5.tar.gz'
      #> Content type 'application/x-gzip' length 6869 bytes
 295
      #> -----
 296
 297
      #> downloaded 6869 bytes
 298 #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/base64enc_0.1-
      3.tar.gz'
      #> Content type 'application/x-gzip' length 7833 bytes
 300
      #> downloaded 7833 bytes
      #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/BH_1.62.0-1.tar.gz'
 303
      #> Content type 'application/x-gzip' length 10181096 bytes (9.7 MB)
 304
      #> =========
 305
      #> downloaded 9.7 MB
      #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/bitops 1.0-6.tar.gz'
      #> Content type 'application/x-gzip' length 8734 bytes
 308
      309
      #> downloaded 8734 bytes
 310
      #> trying URL
      'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/caTools_1.17.1.tar.gz'
 311  #> Content type 'application/x-gzip' length 63358 bytes (61 KB)
 312
      314
      #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/crayon_1.3.2.tar.gz'
 315 #> Content type 'application/x-gzip' length 656168 bytes (640 KB)
 #> downloaded 640 KB
 317
      #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/DBI_0.6.tar.gz'
 319
      #> Content type 'application/x-gzip' length 611282 bytes (596 KB)
 321 #> downloaded 596 KB
 322 #> trving URL
      'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/digest_0.6.12.tar.gz'
      #> Content type 'application/x-gzip' length 120337 bytes (117 KB)
      325 #> downloaded 117 KB
```

```
#> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/dplyr 0.5.0.tar.gz'
326
327
    #> Content type 'application/x-gzip' length 708476 bytes (691 KB)
329 #> downloaded 691 KB
330 #> trying URL
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/evaluate_0.10.tar.gz'
331
    #> Content type 'application/x-gzip' length 21914 bytes (21 KB)
333 #> downloaded 21 KB
    #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/highr_0.6.tar.gz'
334
    #> Content type 'application/x-gzip' length 17294 bytes (16 KB)
    #> ================
336
337
    #> downloaded 16 KB
338 #> trying URL
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/htmltools 0.3.5.tar.gz'
339
    #> Content type 'application/x-gzip' length 44048 bytes (43 KB)
340
    341 #> downloaded 43 KB
342  #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/jsonlite_1.3.tar.gz'
    #> Content type 'application/x-gzip' length 1060613 bytes (1.0 MB)
343
    344
345
    #> downloaded 1.0 MB
346  #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/knitr_1.15.1.tar.gz'
347
    #> Content type 'application/x-gzip' length 1027808 bytes (1003 KB)
348
    349
    #> downloaded 1003 KB
350 #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/lattice_0.20-
351
    #> Content type 'application/x-gzip' length 353702 bytes (345 KB)
    353
    #> downloaded 345 KB
    #> trving URL
354
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/lazyeval_0.2.0.tar.gz'
355
    #> Content type 'application/x-gzip' length 317272 bytes (309 KB)
    357
    #> downloaded 309 KB
    #> trying URL
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/markdown_0.7.7.tar.gz'
359
    #> Content type 'application/x-gzip' length 79427 bytes (77 KB)
360
    361 #> downloaded 77 KB
362 #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/mime_0.5.tar.gz'
363  #> Content type 'application/x-gzip' length 12634 bytes (12 KB)
364
    365
    #> downloaded 12 KB
366 #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/praise_1.0.0.tar.gz'
    #> Content type 'application/x-gzip' length 6100 bytes
368
    #> downloaded 6100 bytes
370
    #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/R6_2.2.0.tar.gz'
371  #> Content type 'application/x-gzip' length 203498 bytes (198 KB)
373
    #> downloaded 198 KB
374
    #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/Rcpp_0.12.9.tar.gz'
375
    #> Content type 'application/x-gzip' length 2372283 bytes (2.3 MB)
377 #> downloaded 2.3 MB
378 #> trying URL
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/RcppArmadillo_0.7.700.0.0.tar.gz'
379
    #> Content type 'application/x-gzip' length 1075328 bytes (1.0 MB)
    381 #> downloaded 1.0 MB
    #> trving URL
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/rmarkdown_1.3.tar.gz'
    #> Content type 'application/x-gzip' length 2073859 bytes (2.0 MB)
    #> downloaded 2.0 MB
385
386
    #> trving URL
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/rprojroot_1.2.tar.gz'
    #> Content type 'application/x-gzip' length 42063 bytes (41 KB)
387
388
    389
    #> downloaded 41 KB
    'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/stringi_1.1.2.tar.gz'
    #> Content type 'application/x-gzip' length 3644855 bytes (3.5 MB)
392
    #> downloaded 3.5 MB
```

```
394
     #> trying URL
     'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/stringr_1.2.0.tar.gz'
     #> Content type 'application/x-gzip' length 94095 bytes (91 KB)
397
     #> downloaded 91 KB
     #> trying URL
     'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/testthat_1.0.2.tar.gz'
     #> Content type 'application/x-gzip' length 147298 bytes (143 KB)
400
    401
     #> downloaded 143 KB
402
     #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/tibble_1.2.tar.gz'
403  #> Content type 'application/x-gzip' length 54517 bytes (53 KB)
405
     #> downloaded 53 KB
406
     #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/XML 3.98-1.5.tar.gz'
407
     #> Content type 'application/x-gzip' length 1599213 bytes (1.5 MB)
409 #> downloaded 1.5 MB
410 #> trying URL 'http://jenkins.iotwjus4p5merbek114fbzbqud.dx.internal.cloudapp.net/src/contrib/yaml_2.1.14.tar.gz'
     #> Content type 'application/x-gzip' length 81095 bytes (79 KB)
411
     412
413 #> downloaded 79 KB
414 #> * installing *source* package 'assertthat' ...
415  #> ** package 'assertthat' successfully unpacked and MD5 sums checked
416
    #> ** R
417
     #> ** inst
418  #> ** preparing package for lazy loading
419  #> ** help
420  #> *** installing help indices
421  #> ** building package indices
     #> ** testing if installed package can be loaded
422
423  #> * creating tarball
424 #> packaged installation of 'assertthat' as 'assertthat_0.1_R_x86_64-pc-linux-gnu.tar.gz'
425  #> * DONE (assertthat)
426
     #> * installing *source* package 'backports' ...
427
     #> ** package 'backports' successfully unpacked and MD5 sums checked
428 #> ** R
429  #> ** byte-compile and prepare package for lazy loading
430  #> ** help
431
    #> *** installing help indices
432
     #> ** building package indices
433 \# ** testing if installed package can be loaded
434  #> * creating tarball
435 #> packaged installation of 'backports' as 'backports_1.0.5_R_x86_64-pc-linux-gnu.tar.gz'
436
     #> * DONE (backports)
437
     #> * installing *source* package 'base64enc' ...
438
    #> ** package 'base64enc' successfully unpacked and MD5 sums checked
     #> ** libs
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c base64.c -o base64.o
441
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c uriencode.c -o uriencode.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c utf8.c -o utf8.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
     L/usr/local/lib -o base64enc.so base64.o uriencode.o utf8.o -L/usr/local/lib/R/lib -lR
444
     #> installing to /home/docker/R/base64enc/libs
     #> ** R
445
     #> ** preparing package for lazy loading
446
447  #> ** help
448  #> *** installing help indices
449  #> ** building package indices
    #> ** testing if installed package can be loaded
450
     #> * creating tarball
452  #> packaged installation of 'base64enc' as 'base64enc_0.1-3_R_x86_64-pc-linux-gnu.tar.gz'
453  #> * DONE (base64enc)
454 #> * installing *source* package 'BH' ...
455 \# ** package 'BH' successfully unpacked and MD5 sums checked
     #> ** inst
456
457
     #> ** help
458  #> *** installing help indices
459  #> ** building package indices
    #> ** testing if installed package can be loaded
460
     #> * creating tarball
462  #> packaged installation of 'BH' as 'BH_1.62.0-1_R_x86_64-pc-linux-gnu.tar.gz'
463 #> * DONE (BH)
464 #> * installing *source* package 'bitops' ...
```

```
#> ** package 'bitops' successfully unpacked and MD5 sums checked
465
466
     #> ** libs
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
467
     I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c bit-ops.c -o bit-ops.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG
     I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c cksum.c -o cksum.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
     L/usr/local/lib -o bitops.so bit-ops.o cksum.o -L/usr/local/lib/R/lib -lR
470
     #> installing to /home/docker/R/bitops/libs
     #> ** R
     #> ** preparing package for lazy loading
472
473 #> ** help
474  #> *** installing help indices
     #> ** building package indices
475
     #> ** testing if installed package can be loaded
477  #> * creating tarball
478 #> packaged installation of 'bitops' as 'bitops_1.0-6_R_x86_64-pc-linux-gnu.tar.gz'
479  #> * DONE (bitops)
480
     #> * installing *source* package 'crayon' ...
     #> ** package 'crayon' successfully unpacked and MD5 sums checked
     #> ** R
482
     #> ** inst
483
484
     #> ** preparing package for lazy loading
     #> ** help
485
486
     #> *** installing help indices
     #> ** building package indices
487
     #> ** testing if installed package can be loaded
     #> * creating tarball
     #> packaged installation of 'crayon' as 'crayon_1.3.2_R_x86_64-pc-linux-gnu.tar.gz'
490
     #> * DONE (crayon)
492
     #> * installing *source* package 'DBI' ...
493
     #> ** R
494
     #> ** inst
495
     #> ** preparing package for lazy loading
     #> ** help
497
     #> *** installing help indices
498
     #> ** building package indices
500
     #> ** installing vignettes
501
     #> ** testing if installed package can be loaded
502
     #> * creating tarball
     #> packaged installation of 'DBI' as 'DBI_0.6_R_x86_64-pc-linux-gnu.tar.gz'
503
     #> * DONE (DBI)
     #> * installing *source* package 'digest' ...
505
     #> ** package 'digest' successfully unpacked and MD5 sums checked
     #> ** libs
507
     #> gcc -std=gnu99 -fsanitize=address.undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c aes.c -o aes.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
509
      I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c crc32.c -o crc32.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
510
     I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c digest.c -o digest.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
511
      I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c init.c -o init.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c md5.c -o md5.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
513
      I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c pmurhash.c -o pmurhash.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
514
      I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c raes.c -o raes.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c sha1.c -o sha1.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c sha2.c -o sha2.o
     #> sha2.c:304:26: warning: 'sha384_initial_hash_value' defined but not used [-Wunused-const-variable=]
517
     #> const static sha2_word64 sha384_initial_hash_value[8] = {
519
     #> sha2.c:248:26: warning: 'sha256_initial_hash_value' defined but not used [-Wunused-const-variable=]
520
     #> const static sha2_word32 sha256_initial_hash_value[8] = {
522
523
     #> sha2.c:228:26: warning: 'K256' defined but not used [-Wunused-const-variable=]
524
     #> const static sha2_word32 K256[64] = {
     #> ^~~~
525
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c sha256.c -o sha256.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c xxhash.c -o xxhash.o
```

```
#> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
     L/usr/local/lib -o digest.so aes.o crc32.o digest.o init.o md5.o pmurhash.o raes.o sha1.o sha2.o sha256.o xxhash.o -
     L/usr/local/lib/R/lib -lR
     #> installing to /home/docker/R/digest/libs
529
530
     #> ** R
     #> ** inst
531
     #> ** preparing package for lazy loading
532
533  #> ** help
534  #> *** installing help indices
     #> ** building package indices
535
536
     #> ** installing vignettes
     537
     #> * creating tarball
     #> packaged installation of 'digest' as 'digest_0.6.12_R_x86_64-pc-linux-gnu.tar.gz'
539
540
     #> * DONE (digest)
     #> * installing *source* package 'highr' ...
542
     543 #> ** R
544 #> ** inst
     #> ** preparing package for lazy loading
545
     #> ** help
546
     #> *** installing help indices
547
     #> ** building package indices
549 #> ** installing vignettes
     #> ** testing if installed package can be loaded
550
551
     #> * creating tarball
552
     #> packaged installation of 'highr' as 'highr_0.6_R_x86_64-pc-linux-gnu.tar.gz'
     #> * DONE (highr)
     #> * installing *source* package 'jsonlite' ...
555
     \#> ** package 'jsonlite' successfully unpacked and MD5 sums checked
     #> ** libs
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
557
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c base64.c -o
     base64.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c collapse_array.c
      -o collapse array.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
559
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c collapse_object.c
      -o collapse object.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c collapse pretty.c
      -o collapse_pretty.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c escape_chars.c -o
     escape chars.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c integer64_to_na.c
      -o integer64 to na.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c is_recordlist.c -
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
564
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c is_scalarlist.c -
     o is scalarlist.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c modp_numtoa.c -o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
566
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c null_to_na.c -o
     null to na.o
567
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c num_to_char.c -o
     num_to_char.o
568
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c parse.c -o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
569
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c prettify.c -o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c push_parser.c -o
     push parser.o
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c r-base64.c -o r-
     #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
     Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c register.c -o
      register.o
```

```
#> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c row_collapse.c -o
          row collapse.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
           Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c transpose_list.c
           -o transpose list.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c validate.c -o
          \verb| #> gcc -std=gnu99 -fsanitize=address, undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -flower-gnu99 -fsanitize=address, undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -fno-omit-frame-pointer -fno-omit-frame-pointer -fno-omit-frame-pointer -fno-omit-frame-pointer -fno-omit-frame-pointer -fno-omit-frame-pointer -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c yajl/yajl.c -o
          yajl/yajl.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c yajl/yajl_alloc.c
           -o yajl/yajl_alloc.o
578
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c yajl/yajl_buf.c -
          o vail/vail buf.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c
          yajl/yajl_encode.c -o yajl/yajl_encode.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c yajl/yajl_gen.c -
          o yajl/yajl_gen.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c yajl/yajl_lex.c -
          o yajl/yajl_lex.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c
          yajl/yajl_parser.c -o yajl/yajl_parser.o
583
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          Iyajl/api -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c yajl/yajl tree.c
           -o yajl/yajl tree.o
          #> ar rcs libstatyajl.a yajl/yajl.o yajl/yajl_alloc.o yajl/yajl_buf.o yajl/yajl_encode.o yajl/yajl_gen.o
          yajl/yajl_lex.o yajl/yajl_parser.o yajl/yajl_tree.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
          L/usr/local/lib \ \hbox{-o jsonlite.so base} 64.o \ collapse\_array.o \ collapse\_object.o \ collapse\_pretty.o \ escape\_chars.o \ lapse\_object.o \ collapse\_object.o \ col
           integer64_to_na.o is_recordlist.o is_scalarlist.o modp_numtoa.o null_to_na.o num_to_char.o parse.o prettify.o
          push_parser.o r-base64.o register.o row_collapse.o transpose_list.o validate.o -L. -lstatyajl -L/usr/local/lib/R/lib
           -1R
          #> installing to /home/docker/R/jsonlite/libs
587
         #> ** R
          #> ** inst
588
          #> ** preparing package for lazy loading
589
          #> ** help
590
591  #> *** installing help indices
592  #> ** building package indices
593
         #> ** installing vignettes
          #> ** testing if installed package can be loaded
          #> * creating tarball
595
          #> packaged installation of 'jsonlite' as 'jsonlite_1.3_R_x86_64-pc-linux-gnu.tar.gz'
597
          #> * DONE (jsonlite)
598
          #> * installing *source* package 'lattice' ...
          \#> ** package 'lattice' successfully unpacked and MD5 sums checked
          #> ** libs
600
          #> gcc -std=gnu99 -fsanitize=address.undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c init.c -o init.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c threeDplot.c -o threeDplot.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
          L/usr/local/lib -o lattice.so init.o threeDplot.o -L/usr/local/lib/R/lib -lR
          #> installing to /home/docker/R/lattice/libs
604
605
          #> ** R
         #> ** data
606
          #> *** moving datasets to lazyload DB
         #> ** demo
608
609
          #> ** inst
          #> ** preparing package for lazy loading
610
611  #> ** help
612  #> *** installing help indices
613  #> ** building package indices
         #> ** testing if installed package can be loaded
614
615
         #> * creating tarball
616  #> packaged installation of 'lattice' as 'lattice_0.20-34_R_x86_64-pc-linux-gnu.tar.gz'
617 #> * DONE (lattice)
618 #> * installing *source* package 'lazyeval' ...
619
          #> ** package 'lazyeval' successfully unpacked and MD5 sums checked
          #> ** libs
620
```

```
#> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
        I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c expr.c -o expr.o
        #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG
        I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c interp.c -o interp.o
        #> gcc -std=gnu99 -fsanitize=address.undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
        I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c lazy.c -o lazy.o
        #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
        I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c name.c -o name.o
        \verb| #> gcc -std=gnu99 -fsanitize=address, undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-flower-
625
        I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c utils.c -o utils.o
        #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
626
        L/usr/local/lib -o lazyeval.so expr.o interp.o lazy.o name.o utils.o -L/usr/local/lib/R/lib -lR
        #> installing to /home/docker/R/lazyeval/libs
627
628
        #> ** R
       #> ** inst
629
630  #> ** preparing package for lazy loading
631  #> ** help
       #> *** installing help indices
632
        #> ** building package indices
633
634  #> ** installing vignettes
635  #> ** testing if installed package can be loaded
636  #> * creating tarball
        #> packaged installation of 'lazyeval' as 'lazyeval 0.2.0 R x86 64-pc-linux-gnu.tar.gz'
637
        #> * DONE (lazyeval)
639
        #> * installing *source* package 'mime' ...
       #> ** package 'mime' successfully unpacked and MD5 sums checked
641  #> ** libs
        #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
642
        I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c rawmatch.c -o rawmatch.o
        #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
        L/usr/local/lib -o mime.so rawmatch.o -L/usr/local/lib/R/lib -lR
644
        #> installing to /home/docker/R/mime/libs
645
        #> ** R
       #> ** preparing package for lazy loading
646
647  #> ** help
648  #> *** installing help indices
       #> ** building package indices
649
        #> ** testing if installed package can be loaded
        #> * creating tarball
651
       #> packaged installation of 'mime' as 'mime 0.5 R x86 64-pc-linux-gnu.tar.gz'
        #> * DONE (mime)
       #> * installing *source* package 'praise' ...
654
        #> ** package 'praise' successfully unpacked and MD5 sums checked
       #> ** R
656
657 #> ** inst
658  #> ** preparing package for lazy loading
       #> ** help
659
        #> *** installing help indices
661  #> ** building package indices
662  #> ** testing if installed package can be loaded
663 #> * creating tarball
664
       #> packaged installation of 'praise' as 'praise_1.0.0_R_x86_64-pc-linux-gnu.tar.gz'
        #> * DONE (praise)
       #> * installing *source* package 'R6' ...
667  #> ** package 'R6' successfully unpacked and MD5 sums checked
668 #> ** R
       #> ** inst
669
        #> ** preparing package for lazy loading
671  #> ** help
672  #> *** installing help indices
673  #> ** building package indices
       #> ** installing vignettes
674
        #> ** testing if installed package can be loaded
676
       #> * creating tarball
#> packaged installation of 'R6' as 'R6_2.2.0_R_x86_64-pc-linux-gnu.tar.gz'
678 #> * DONE (R6)
        #> * installing *source* package 'Rcpp' ...
679
        #> ** package 'Rcpp' successfully unpacked and MD5 sums checked
681
        #> ** libs
        #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
        I/usr/local/lib/R/include -DNDEBUG -I../inst/include/ -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -
        mtune=native -c Date.cpp -o Date.o
        #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
        I/usr/local/lib/R/include -DNDEBUG -I../inst/include/ -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -
        mtune=native -c Module.cpp -o Module.o
        #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
        I/usr/local/lib/R/include -DNDEBUG -I../inst/include/ -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -
        mtune=native -c Rcpp_init.cpp -o Rcpp_init.o
```

```
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      I/usr/local/lib/R/include -DNDEBUG -I../inst/include/ -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -
      mtune=native -c api.cpp -o api.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      I/usr/local/lib/R/include -DNDEBUG -I../inst/include/ -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -
      mtune=native -c attributes.cpp -o attributes.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      I/usr/local/lib/R/include -DNDEBUG -I../inst/include/ -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -
      mtune=native -c barrier.cpp -o barrier.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
688
      L/usr/local/lib/R/lib -L/usr/local/lib -o Rcpp.so Date.o Module.o Rcpp_init.o api.o attributes.o barrier.o -
      L/usr/local/lib/R/lib -lR
689
      #> installing to /home/docker/R/Rcpp/libs
     #> ** R
690
     #> ** inst
     #> ** preparing package for lazy loading
     #> code for methods in class "C++OverloadedMethods" was not checked for suspicious field assignments (recommended
      package 'codetools' not available?)
      #> code for methods in class "RcppClass" was not checked for suspicious field assignments (recommended package
      'codetools' not available?)
      #> code for methods in class "RcppClass" was not checked for suspicious field assignments (recommended package
695
      'codetools' not available?)
696
     #> ** help
     #> *** installing help indices
698  #> ** building package indices
     #> ** installing vignettes
700
     #> ** testing if installed package can be loaded
701 #> * creating tarball
     #> packaged installation of 'Rcpp' as 'Rcpp_0.12.9_R_x86_64-pc-linux-gnu.tar.gz'
703
     #> * DONE (Rcpp)
704
     #> * installing *source* package 'stringi' ...
705
     #> ** package 'stringi' successfully unpacked and MD5 sums checked
706  #> checking for local ICUDT_DIR... icu55/data
707 #> checking for R_HOME... /usr/local/lib/R
708  #> checking for R... /usr/local/lib/R/bin/R
709
     #> checking for R >= 3.1.0... yes
710
     #> checking for cat... /bin/cat
711 #> checking for gcc... gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer
712 #> checking whether the C compiler works... yes
713 #> checking for C compiler default output file name... a.out
714
     #> checking for suffix of executables...
715 #> checking whether we are cross compiling... no
716 #> checking for suffix of object files... o
717 #> checking whether we are using the GNU C compiler... yes
718  #> checking whether gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer accepts -g... yes
     #> checking for gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer option to accept ISO C89...
      none needed
     #> checking how to run the C preprocessor... g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-
      pointer -fno-sanitize=object-size,vptr -E
     #> checking for grep that handles long lines and -e... /bin/grep
721
722 #> checking for egrep... /bin/grep -E
723  #> checking for ANSI C header files... yes
724 #> checking for sys/types.h... yes
725 #> checking for sys/stat.h... yes
726
     #> checking for stdlib.h... yes
727
     #> checking for string.h... yes
728  #> checking for memory.h... yes
729 #> checking for strings.h... yes
730 #> checking for inttypes.h... yes
731 #> checking for stdint.h... yes
732 #> checking for unistd.h... yes
733  #> checking elf.h usability... yes
734 #> checking elf.h presence... yes
735 #> checking for elf.h... yes
     #> checking whether we are using the GNU C++ compiler... yes
737
     #> checking whether g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-
      size,vptr -std=gnu++11 accepts -g... yes
738
     #> checking whether the C++ compiler supports the long long type... yes
739 \# checking whether the compiler implements namespaces... yes
     #> checking whether the compiler supports Standard Template Library... yes
741 #> checking whether std::map is available... yes
742 #> checking for pkg-config... /usr/bin/pkg-config
743 #> checking with pkg-config for ICU4C installed... 57.1
744 #> checking for ICU4C >= 50... yes
     #> checking for proper CPPFLAGS, LDFLAGS, and LIBS... done
746
     #> checking whether we may build an ICU-based project... yes
     #> checking for available ICU data library (ucnv, uloc, utrans)... yes
748 #> checking for available ICU data library (ucol)... yes
```

```
749
     #> configure: creating ./config.status
750
     #> config.status: creating src/Makevars
751
     #> config.status: creating src/uconfig_local.h
     #> config.status: creating src/install.libs.R
     #> *** stringi configure summary:
753
754
     #> ICU FOUND=1
755
     #> ICUDT_DIR=icu55/data
     #> STRINGI CXXSTD=CXX STD=CXX11
756
     #> STRINGI_CFLAGS= -fpic
758
     #> STRINGI CPPFLAGS=-I. -UDEBUG -DNDEBUG -DU HAVE ELF H
759
     #> STRINGI CXXFLAGS= -fpic
760
     #> STRINGI_LDFLAGS=-L/usr/lib/x86_64-linux-gnu
     #> STRINGI LIBS=-licui18n -licuuc -licudata
761
     #> *** compiler settings used:
     #> CC=gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer
763
764
     #> CPP=g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -E
765
     #> LD=g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
766
     #> CFLAGS=-pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -fpic
     #> CPPFLAGS=-I/usr/local/include -UDEBUG -DNDEBUG
768
     #> CXX=g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11
769
     #> CXXFLAGS=-pipe -Wall -pedantic -O2 -mtune=native -fpic
770
     #> LDFLAGS=
771
     #> LIBS=
     #> ** libs
772
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_brkiter.cpp -o stri_brkiter.o
774
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_collator.cpp -o stri_collator.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_common.cpp -o stri_common.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_compare.cpp -o stri_compare.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_base.cpp -o stri_container_base.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri container bytesearch.cpp -o stri container bytesearch.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_listint.cpp -o stri_container_listint.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -02 -mtune=native -c stri_container_listraw.cpp -o stri_container_listraw.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_listutf8.cpp -o stri_container_listutf8.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
      std-gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_regex.cpp -o stri_container_regex.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_usearch.cpp -o stri_container_usearch.o
784
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_utf16.cpp -o stri_container_utf16.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_utf8.cpp -o stri_container_utf8.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_container_utf8_indexable.cpp -o stri_container_utf8_indexable.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_encoding_conversion.cpp -o stri_encoding_conversion.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri encoding detection.cpp -o stri encoding detection.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_encoding_management.cpp -o stri_encoding_management.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_escape.cpp -o stri_escape.o
```

```
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_exception.cpp -o stri_exception.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_ICU_settings.cpp -o stri_ICU_settings.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_join.cpp -o stri_join.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_length.cpp -o stri_length.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_pad.cpp -o stri_pad.o
796
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_prepare_arg.cpp -o stri_prepare_arg.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_random.cpp -o stri_random.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_reverse.cpp -o stri_reverse.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_count.cpp -o stri_search_class_count.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_detect.cpp -o stri_search_class_detect.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -02 -mtune=native -c stri_search_class_extract.cpp -o stri_search_class_extract.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_locate.cpp -o stri_search_class_locate.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -02 -mtune=native -c stri_search_class_replace.cpp -o stri_search_class_replace.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_split.cpp -o stri_search_class_split.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_startsendswith.cpp -o
      stri_search_class_startsendswith.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_subset.cpp -o stri_search_class_subset.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_class_trim.cpp -o stri_search_class_trim.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_common.cpp -o stri_search_common.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_count.cpp -o stri_search_coll_count.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_detect.cpp -o stri_search_coll_detect.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_extract.cpp -o stri_search_coll_extract.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_locate.cpp -o stri_search_coll_locate.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_replace.cpp -o stri_search_coll_replace.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_split.cpp -o stri_search_coll_split.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_startsendswith.cpp -o stri_search_coll_startsendswith.o
     #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_search_coll_subset.cpp -o stri_search_coll_subset.o
```

```
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_boundaries_count.cpp -o stri_search_boundaries_count.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_boundaries_extract.cpp -o stri_search_boundaries_extract.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -02 -mtune=native -c stri_search_boundaries_locate.cpp -o stri_search_boundaries_locate.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_boundaries_split.cpp -o stri_search_boundaries_split.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_count.cpp -o stri_search_fixed_count.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_detect.cpp -o stri_search_fixed_detect.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -02 -mtune=native -c stri_search_fixed_extract.cpp -o stri_search_fixed_extract.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_locate.cpp -o stri_search_fixed_locate.o
\verb| #> g++ -fsanitize= address, undefined, bounds-strict -fno-omit-frame-pointer -fno-sanitize= object-size, \verb| vpt-size| vpt
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_replace.cpp -o stri_search_fixed_replace.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_split.cpp -o stri_search_fixed_split.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_subset.cpp -o stri_search_fixed_subset.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_fixed_startsendswith.cpp -o
stri_search_fixed_startsendswith.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_in.cpp -o stri_search_in.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -02 -mtune=native -c stri_search_other_replace.cpp -o stri_search_other_replace.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_other_split.cpp -o stri_search_other_split.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_regex_count.cpp -o stri_search_regex_count.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -02 -mtune=native -c stri_search_regex_detect.cpp -o stri_search_regex_detect.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_regex_extract.cpp -o stri_search_regex_extract.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_regex_locate.cpp -o stri_search_regex_locate.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_regex_match.cpp -o stri_search_regex_match.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -02 -mtune=native -c stri_search_regex_replace.cpp -o stri_search_regex_replace.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_regex_split.cpp -o stri_search_regex_split.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_search_regex_subset.cpp -o stri_search_regex_subset.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_sort.cpp -o stri_sort.o
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_stats.cpp -o stri_stats.o
\verb| #> g++ -fsanitize= address, undefined, bounds-strict -fno-omit-frame-pointer -fno-sanitize= object-size, \verb| vpt-sanitize= object-size, \verb| vpt-sanitize=
std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
-pipe -Wall -pedantic -O2 -mtune=native -c stri_stringi.cpp -o stri_stringi.o
```

```
#> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_sub.cpp -o stri_sub.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_test.cpp -o stri_test.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_time_zone.cpp -o stri_time_zone.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_time_calendar.cpp -o stri_time_calendar.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_time_symbols.cpp -o stri_time_symbols.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
848
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_time_format.cpp -o stri_time_format.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU HAVE ELF H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_trans_casemap.cpp -o stri_trans_casemap.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_trans_other.cpp -o stri_trans_other.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_trans_normalization.cpp -o stri_trans_normalization.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_trans_transliterate.cpp -o stri_trans_transliterate.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_ucnv.cpp -o stri_ucnv.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_uloc.cpp -o stri_uloc.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_utils.cpp -o stri_utils.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -I/usr/local/lib/R/include -DNDEBUG -I. -UDEBUG -DNDEBUG -DU_HAVE_ELF_H -I/usr/local/include -fpic -fpic
      -pipe -Wall -pedantic -O2 -mtune=native -c stri_wrap.cpp -o stri_wrap.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
      std=gnu++11 -shared -L/usr/local/lib/R/lib -L/usr/local/lib -o stringi.so stri_brkiter.o stri_collator.o
      stri_common.o stri_compare.o stri_container_base.o stri_container_bytesearch.o stri_container_listint.o
      stri_container_listraw.o stri_container_listutf8.o stri_container_regex.o stri_container_usearch.o
      stri_container_utf16.o stri_container_utf8.o stri_container_utf8_indexable.o stri_encoding_conversion.o
      stri_encoding_detection.o stri_encoding_management.o stri_escape.o stri_exception.o stri_ICU_settings.o stri_join.o
      stri_length.o stri_pad.o stri_prepare_arg.o stri_random.o stri_reverse.o stri_search_class_count.o
      stri search class detect.o stri search class extract.o stri search class locate.o stri search class replace.o
      stri_search_class_split.o stri_search_class_startsendswith.o stri_search_class_subset.o stri_search_class_trim.o
      stri_search_common.o stri_search_coll_count.o stri_search_coll_detect.o stri_search_coll_extract.o
      stri_search_coll_locate.o stri_search_coll_replace.o stri_search_coll_split.o stri_search_coll_startsendswith.o
      stri_search_coll_subset.o stri_search_boundaries_count.o stri_search_boundaries_extract.o
      stri search boundaries locate.o stri search boundaries split.o stri search fixed count.o stri search fixed detect.o
      stri_search_fixed_extract.o stri_search_fixed_locate.o stri_search_fixed_replace.o stri_search_fixed_split.o
      stri_search_fixed_subset.o stri_search_fixed_startsendswith.o stri_search_in.o stri_search_other_replace.o
      stri_search_other_split.o stri_search_regex_count.o stri_search_regex_detect.o stri_search_regex_extract.o
      stri_search_regex_locate.o stri_search_regex_match.o stri_search_regex_replace.o stri_search_regex_split.o
      stri_search_regex_subset.o stri_sort.o stri_stats.o stri_stringi.o stri_sub.o stri_test.o stri_time_zone.o
      stri_time_calendar.o stri_time_symbols.o stri_time_format.o stri_trans_casemap.o stri_trans_other.o
      stri_trans_normalization.o stri_trans_transliterate.o stri_ucnv.o stri_uloc.o stri_utils.o stri_wrap.o -
      L/usr/lib/x86_64-linux-gnu -licui18n -licuuc -licudata -L/usr/local/lib/R/lib -lR
858
      #> installing via 'install.libs.R' to /home/docker/R/stringi
     #> ** R
859
860
     #> ** inst
     #> ** preparing package for lazy loading
861
     #> ** help
862
      \#> *** installing help indices
     #> ** building package indices
864
865
     #> ** testing if installed package can be loaded
866
     #> * creating tarball
      #> packaged installation of 'stringi' as 'stringi_1.1.2_R_x86_64-pc-linux-gnu.tar.gz'
867
      #> * DONE (stringi)
      #> * installing *source* package 'XML' ...
869
     #> checking for gcc... gcc
     #> checking for C compiler default output file name... a.out
872
      #> checking whether the C compiler works... yes
      #> checking whether we are cross compiling... no
```

```
875 #> checking for suffix of executables...
876 #> checking for suffix of object files... o
\, 877 \, #> checking whether we are using the GNU C compiler... yes
878 #> checking whether gcc accepts -g... yes
879 #> checking for gcc option to accept ISO C89... none needed
880  #> checking how to run the C pre
881  #> checking for sed.../bin/sed
        #> checking how to run the C preprocessor... gcc -E
882  #> checking for pkg-config... /usr/bin/pkg-config
883 #> checking for xml2-config... /usr/bin/xml2-config
884  #> USE_XML2 = yes
885
        #> SED EXTENDED ARG: -E
886
         #> Minor 9, Patch 4 for 2.9.4
887 #> Located parser file -I/usr/include/libxml2/parser.h
888 #> Checking for 1.8: -I/usr/include/libxml2
889  #> Using libxml2.*
890
         #> checking for gzopen in -lz... yes
891  #> checking for xmlParseFile in -lxml2... yes
892  #> checking for xmlHashSize in -lxml2... yes
893 #> Using built-in xmlHashSize
894 #> Checking DTD parsing (presence of externalSubset)...
         #> checking for xmlHashSize in -lxml2... yes
896
         #> Found xmlHashSize
897 #> checking for xmlOutputBufferCreateBuffer in -lxml2... yes
898  #> have xmlOutputBufferCreateBuffer()
899 #> checking for xmlDocDumpFormatMemoryEnc in -lxml2... yes
         #> checking libxml/xmlversion.h usability... yes
901 #> checking libxml/xmlversion.h presence... yes
902  #> checking for libxml/xmlversion.h... yes
903 #> Expat: FALSE
904 #> Checking for return type of xmlHashScan element routine.
905
         #> No return value for xmlHashScan
906
         #> xmlNs has a context field
907  #> Checking for cetype_t enumeration
908  #> Using recent version of R with cetype_t enumeration type for encoding
909 #> checking for xmlsec1-config... no
910
         #> nodegc default
911  #> xml-debug default
912  #> Version has XML_WITH_ZLIB
913 #> Version has xmlHasFeature()
914 #> *************************
915
        #> Configuration information:
916
         #> Libxml settings
917  #> libxml include directory: -I/usr/include/libxml2
918 #> libxml library directory: -lxml2 -lz -lxml2
919  #> libxml 2: -DLIBXML2=1
         #> Compilation flags: -DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -
         DDUMP_WITH_ENCODING=1 -DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -
         DNO_XML_HASH_SCANNER_RETURN=1 -DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -
         DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1
921
         #> Link flags: -lxml2 -lz -lxml2
         #> *************
922
923  #> configure: creating ./config.status
924 #> config.status: creating src/Makevars
925 #> config.status: creating R/supports.R
         #> config.status: creating inst/scripts/RSXML.csh
927
        #> config.status: creating inst/scripts/RSXML.bsh
928 #> ** libs
         #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
         DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
         DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
         DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
         D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
         O2 -mtune=native -fsanitize=address -c DocParse.c -o DocParse.o
930
         #> In file included from DocParse.c:13:0:
931 #> DocParse.c: In function 'RS XML convertXMLDoc':
932 #> Utils.h:12:31: warning: pointer targets in passing argument 2 of 'CreateCharSexpWithEncoding' differ in
         signedness [-Wpointer-sign]
933
         #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
934 #> ^
935 #> Utils.h:235:74: note: in expansion of macro 'CHAR TO XMLCHAR'
936
         #> #define ENC_COPY_TO_USER_STRING(x) CreateCharSexpWithEncoding(encoding, CHAR_TO_XMLCHAR (x))
937
         #> ^~~~~~~~~~
         #> DocParse.c:375:60: note: in expansion of macro 'ENC_COPY_TO_USER_STRING'
938
          \texttt{\#} > \texttt{SET\_STRING\_ELT(VECTOR\_ELT(rdoc, FILE\_ELEMENT\_NAME), 0, ENC\_COPY\_TO\_USER\_STRING(doc-}) \\ \texttt{? XMLCHAR\_TO\_CHAR(doc-}) \\ \texttt{?
939
         >name) : fileName));
940
         #> ^~
         #> In file included from DocParse.c:13:0:
```

```
942
      #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'const char
 943  #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
 944 #> ^~
 945
      #> In file included from DocParse.c:13:0:
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
 948 #> ^
 949
      #> Utils.h:234:40: note: in expansion of macro 'CHAR TO XMLCHAR'
 950
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
 951 #> ^~
 952 #> DocParse.c:376:54: note: in expansion of macro 'COPY TO USER STRING'
 953 #> SET_STRING_ELT(rdoc_el_names, FILE_ELEMENT_NAME, COPY_TO_USER_STRING("file"));
 954
      #> ^~~~~~~
 955
      #> In file included from RSCommon.h:54:0,
 956
      #> from DocParse.h:11,
      #> from DocParse.c:10:
 958 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
 959
      #> SEXP Rf_mkChar(const char *);
      #> ^~~
 960
 961 #> In file included from DocParse.c:13:0:
 962 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
 963
      #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
 965 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
 966
 968 #> DocParse.c:384:38: note: in expansion of macro 'COPY_TO_USER_STRING'
 969 #> COPY_TO_USER_STRING(version));
 970 #> ^~~
 971
      #> In file included from RSCommon.h:54:0,
      #> from DocParse.h:11,
 973 #> from DocParse.c:10:
 974 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
 975
      #> SEXP Rf_mkChar(const char *);
      #> ^~
 976
 977
      #> In file included from DocParse.c:13:0:
 978 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
 979
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
 980
      #> ^
 981 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
 982  #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
 983
      #> ^~~
      #> DocParse.c:385:55: note: in expansion of macro 'COPY_TO_USER_STRING'
      #> SET_STRING_ELT(rdoc_el_names, VERSION_ELEMENT_NAME, COPY_TO_USER_STRING("version"));
 985
 986 #> ^~~
 987 #> In file included from RSCommon.h:54:0,
 988
      #> from DocParse.h:11,
      #> from DocParse.c:10:
 990
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
 991
      #> SEXP Rf_mkChar(const char *);
      #> ^~~~~~
 992
 993
      #> In file included from DocParse.c:13:0:
 994 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
 995
      #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
 996
 997
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
 998 #> #define COPY TO USER STRING(x) mkChar(CHAR TO XMLCHAR (x))
999
      #> DocParse.c:405:56: note: in expansion of macro 'COPY_TO_USER_STRING'
1000
      #> SET_STRING_ELT(rdoc_el_names, CHILDREN_ELEMENT_NAME, COPY_TO_USER_STRING("children"));
      #> ^~~
1002
1003 #> In file included from RSCommon.h:54:0,
1004 #> from DocParse.h:11,
1005
      #> from DocParse.c:10:
1006
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1007 #> SEXP Rf_mkChar(const char *);
1008
      #> ^~~~~~~
      #> In file included from DocParse.c:13:0:
1009
```

```
#> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf mkChar' differ in signedness [-Wpointer-
1010
      signl
1011 #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1012 #> ^
1013
      #> Utils.h:234:40: note: in expansion of macro 'CHAR TO XMLCHAR'
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1015 #> ^~~~~~~~~~
1016 #> DocParse.c:410:28: note: in expansion of macro 'COPY TO USER STRING'
1017 #> SET_STRING_ELT(klass, 0, COPY_TO_USER_STRING("XMLDocumentContent"));
1018 #> ^~~~~~~
1019
      #> In file included from RSCommon.h:54:0,
1020
      #> from DocParse.h:11.
1021 #> from DocParse.c:10:
1022 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
      #> SEXP Rf_mkChar(const char *);
1023
1024 #> ^~~~~~
1025 #> In file included from DocParse.c:13:0:
1026 #> DocParse.c: In function 'RS_XML_createXMLNode':
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1027
1028 #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1029 #> ^
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1030
1031
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1032
      #> ^~~~~~~~~~
1033 #> DocParse.c:615:53: note: in expansion of macro 'COPY TO USER STRING'
1034 #> SET_STRING_ELT(ans_el_names, NUM_NODE_ELEMENTS, COPY_TO_USER_STRING("value"));
1035
      #> ^~~~~~~
1036
      #> In file included from RSCommon.h:54:0,
1037
      #> from DocParse.h:11,
1038 #> from DocParse.c:10:
1039 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1040
      #> SEXP Rf_mkChar(const char *);
1041 #> ^~~~~~
1042 #> In file included from DocParse.c:13:0:
1043 #> DocParse.c: In function 'RS_XML_createNameSpaceIdentifier':
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1044
      sign]
1045 #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1046 #> ^
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1047
      #> #define COPY TO USER STRING(x) mkChar(CHAR TO XMLCHAR (x))
1048
      #> ^~~~~~~~
1049
1050 #> DocParse.c:768:31: note: in expansion of macro 'COPY TO USER STRING'
#> SET_STRING_ELT(klass, 0, COPY_TO_USER_STRING("XMLNamespaceDefinition"));
1052 #> ^~~~~~~~~~~~~~
      #> In file included from RSCommon.h:54:0,
1054
      #> from DocParse.h:11,
1055 #> from DocParse.c:10:
1056 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1057
      #> SEXP Rf_mkChar(const char *);
1058 #> ^~~~~~
1059 #> In file included from DocParse.c:13:0:
1060 #> DocParse.c: In function 'RS_XML_xmlNodeChildrenReferences':
1061 #> Utils.h:12:31: warning: pointer targets in passing argument 2 of 'CreateCharSexpWithEncoding' differ in
      signedness [-Wpointer-sign]
1062
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1063 #> ^
      #> Utils.h:235:74: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1064
1065
      #> #define ENC_COPY_TO_USER_STRING(x) CreateCharSexpWithEncoding(encoding, CHAR_TO_XMLCHAR (x))
      #> ^~~~~
1066
1067
      #> DocParse.c:1226:31: note: in expansion of macro 'ENC_COPY_TO_USER_STRING'
1068 #> SET_STRING_ELT(names, i, ENC_COPY_TO_USER_STRING(ptr->name ? XMLCHAR_TO_CHAR(ptr->name) : ""));
1069
      #> ^~~~~~~~~~~~
1070
      #> In file included from DocParse.c:13:0:
      #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'char *'
1071
1072 #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
1074
      #> DocParse.c: In function 'RS_XML_xmlXIncludeProcessTreeFlags':
1075
      #> DocParse.c:1351:22: warning: variable 'parent' set but not used [-Wunused-but-set-variable]
1076
      #> xmlNodePtr prev, parent;
      #> ^~~
1077
1078 #> DocParse.c:1351:16: warning: variable 'prev' set but not used [-Wunused-but-set-variable]
1079 #> xmlNodePtr prev, parent;
```

```
1080
          #> ^~~~
1081
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
          DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
           DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
          D R =1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
          02 -mtune=native -fsanitize=address -c EventParse.c -o EventParse.o
1082
          #> In file included from EventParse.c:15:0:
          #> EventParse.c: In function 'RS_XML_entityDeclarationHandler':
1084
          #> Utils.h:12:31: warning: pointer targets in passing argument 2 of 'CreateCharSexpWithEncoding' differ in
          signedness [-Wpointer-sign]
1085
          #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1086
          #> ^
1087
          #> Utils.h:235:74: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1088
          #> #define ENC_COPY_TO_USER_STRING(x) CreateCharSexpWithEncoding(encoding, CHAR_TO_XMLCHAR (x))
          #> EventParse.c:218:45: note: in expansion of macro 'ENC_COPY_TO_USER_STRING'
1090
1091
          #> SET_STRING_ELT(VECTOR_ELT(opArgs, i), 0, ENC_COPY_TO_USER_STRING(xml_args[i] ? xml_args[i] : ""));
1092
1093
          #> In file included from EventParse.c:15:0:
          #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'const char
1094
1095
          #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
1096
          #> EventParse.c: In function 'RS_XML_textHandler':
          #> EventParse.c:405:6: warning: pointer targets in assignment differ in signedness [-Wpointer-sign]
1099
          #> tmp = strdup("");
1100
          #> ^
1101
          #> EventParse.c:419:2: warning: this 'if' clause does not guard... [-Wmisleading-indentation]
          #> if(s == (XML_Char*)NULL || s[0] == (XML_Char)0 || len == 0
1102
          #> EventParse.c:425:5: note: ...this statement, but the latter is misleadingly indented as if it is guarded by the
1104
           'if'
          #> tmp = tmpString = (char*)calloc(len+1, sizeof(char));
1105
1106 #> ^~~
          #> EventParse.c: In function 'RS_XML_callUserFunction':
          #> EventParse.c:492:7: warning: variable 'general' set but not used [-Wunused-but-set-variable]
1108
1109
          #> int general = 0;
          #> ^~~~~
1110
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
          DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
          DLIBXML NAMESPACE HAS CONTEXT=1 -DHAVE R CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
          D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
          O2 -mtune=native -fsanitize=address -c ExpatParse.c -o ExpatParse.o
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          DLIBXML -I/usr/include/libxml2 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
          DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
           DLIBXML NAMESPACE HAS CONTEXT=1 -DHAVE R CETYPE T=1 -DHAVE XML WITH ZLIB=1 -DHAVE XML HAS FEATURE=1 -DUSE R=1 -
          D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
           O2 -mtune=native -fsanitize=address -c HTMLParse.c -o HTMLParse.o
1113
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
           DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
           DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
           DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
           D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
          O2 -mtune=native -fsanitize=address -c NodeGC.c -o NodeGC.o
          #> NodeGC.c: In function 'clearNodeMemoryManagement':
1115
          #> NodeGC.c:385:96: warning: comparison between pointer and integer
1116
          #> int isOurs = (a = node->_private != &R_XML_NoMemoryMgmt) && (b = ((int *)(node->_private))[1] == (int *)
          &R_XML_MemoryMgrMarker);
          #> ^~
1117
          #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
          DLIBXML -I/usr/include/libxm12 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
          DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
          DLIBXML NAMESPACE HAS CONTEXT=1 -DHAVE R CETYPE T=1 -DHAVE XML WITH ZLIB=1 -DHAVE XML HAS FEATURE=1 -DUSE R=1 -
          D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
          O2 -mtune=native -fsanitize=address -c RSDTD.c -o RSDTD.o
1119
          #> In file included from RSDTD.c:21:0:
1120
          #> RSDTD.c: In function 'RS xmlElementTableConverter':
1121
          #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
          signl
1122
          #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
          #> ^
1123
#> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1125 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1126
          #> ^~~~~~~~~
1127
          #> RSDTD.c:325:56: note: in expansion of macro 'COPY_TO_USER_STRING'
           \texttt{\#} > \mathsf{SET\_STRING\_ELT}(\mathsf{scanData-} > \mathsf{dtdNames}, \ \mathsf{scanData-} > \mathsf{counter}, \ \mathsf{COPY\_TO\_USER\_STRING}(\mathsf{XMLCHAR\_TO\_CHAR}(\mathsf{name}))); \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{XMLCHAR\_TO\_CHAR}(\mathsf{name}))); } \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{XMLCHAR\_TO\_CHAR}(\mathsf{name})), } \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{XMLCHAR\_TO\_CHAR}(\mathsf{name})), } \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{Name}(\mathsf{Name\_TO\_CHAR}(\mathsf{name})), } \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{Name\_TO\_CHAR}(\mathsf{name})), } \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{Name\_TO\_CHAR}(\mathsf{name\_TO\_CHAR}(\mathsf{name})), } \\ \texttt{$\mathsf{PST\_STRING}(\mathsf{Name\_TO\_CHAR}(\mathsf{name\_TO\_CHAR}(\mathsf{na
```

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#> ^~~~~~~
1129
1130
      #> In file included from RSCommon.h:54:0,
1131 #> from RSDTD.h:9.
1132 #> from RSDTD.c:13:
1133 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1134  #> SEXP Rf_mkChar(const char *);
1135 #> ^~~~~~
1136 #> In file included from RSDTD.c:21:0:
      #> RSDTD.c: In function 'RS_xmlEntityTableConverter':
1137
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
1139 #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1140 #> ^
1141
      #> Utils.h:234:40: note: in expansion of macro 'CHAR TO XMLCHAR'
1142
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1143 #> ^~~~~~~~~~
#> RSDTD.c:399:56: note: in expansion of macro 'COPY_TO_USER_STRING'
#* SET_STRING_ELT(scanData->dtdNames, scanData->counter, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(name)));
1146
      #> ^~~~~~~~~
1147
      #> In file included from RSCommon.h:54:0,
1148 #> from RSDTD.h:9.
1149 #> from RSDTD.c:13:
1150 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1151 #> SEXP Rf_mkChar(const char *);
1152 #> ^~~~~~
1153 #> In file included from RSDTD.c:21:0:
      #> RSDTD.c: In function 'RS_XML_createDTDEntity':
1154
1155
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
1156  #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1157 #> ^
1158
      #> Utils.h:234:40: note: in expansion of macro 'CHAR TO XMLCHAR'
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1160
      #> ^~~~~~~~~~
#> RSDTD.c:434:60: note: in expansion of macro 'COPY_TO_USER_STRING'
1162 #> SET_STRING_ELT(VECTOR_ELT(ans, DTD_ENTITY_NAME_SLOT), 0, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(entity->name)));
1163
      #> ^~~
1164
      #> In file included from RSCommon.h:54:0,
1165 #> from RSDTD.h:9.
1166 #> from RSDTD.c:13:
1167 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1168 #> SEXP Rf_mkChar(const char *);
1169 #> ^~~
1170  #> In file included from RSDTD.c:21:0:
1171 \# Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
1172
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1173 #> ^
1174 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1175 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
#> RSDTD.c:445:64: note: in expansion of macro 'COPY_TO_USER_STRING'
1178 #> SET_STRING_ELT(VECTOR_ELT(ans, DTD_ENTITY_CONTENT_SLOT), 0, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(value)));
1179 #> ^~~
1180
      #> In file included from RSCommon.h:54:0.
1181
      #> from RSDTD.h:9.
1182
      #> from RSDTD.c:13:
1183 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1184
      #> SEXP Rf_mkChar(const char *);
1185
      #> ^~~~
      #> In file included from RSDTD.c:21:0:
1186
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1187
      signl
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1188
1189
      #> ^
      #> Utils.h:234:40: note: in expansion of macro 'CHAR TO XMLCHAR'
1190
1191 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1192
      #> ^~~~~~~~
      #> RSDTD.c:449:64: note: in expansion of macro 'COPY_TO_USER_STRING'
1193
1194 #> SET_STRING_ELT(VECTOR_ELT(ans, DTD_ENTITY_ORIG_SLOT), 0, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(entity->orig)));
1195 #> ^~~
1196 #> In file included from RSCommon.h:54:0,
1197
      #> from RSDTD.h:9.
```

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1198 #> from RSDTD.c:13:
1199
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1200 #> SEXP Rf_mkChar(const char *);
1201 #> ^~~~~~
1202
      #> In file included from RSDTD.c:21:0:
1203
      #> RSDTD.c: In function 'RS_XML_createDTDElement':
1204 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf mkChar' differ in signedness [-Wpointer-
      signl
1205
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
      #> ^
1206
1207 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1208 #> #define COPY TO USER STRING(x) mkChar(CHAR TO XMLCHAR (x))
1209
      #> ^~~~~~~~~~
1210
      #> RSDTD.c:491:60: note: in expansion of macro 'COPY TO USER STRING'
1211
      #> SET_STRING_ELT(VECTOR_ELT(rel, DTD_ELEMENT_NAME_SLOT), 0, COPY_TO_USER_STRING( XMLCHAR_TO_CHAR( ( el->name ?
      el->name : (xmlChar*)"")));
1212 #> ^~~~
1213 #> In file included from RSCommon.h:54:0,
1214
      #> from RSDTD.h:9,
1215
      #> from RSDTD.c:13:
1216 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1217
      #> SEXP Rf_mkChar(const char *);
1218
      #> ^~~~~~
1219 #> In file included from RSDTD.c:21:0:
1220 #> RSDTD.c: In function 'RS XML createDTDElementContents':
1221 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
1222
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1223 #> ^
1224 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1225 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1226
      #> ^~~~~~~~~
1227
      #> RSDTD.c:578:71: note: in expansion of macro 'COPY_TO_USER_STRING'
1228 #> SET_STRING_ELT(VECTOR_ELT(ans, DTD_CONTENT_ELEMENTS_SLOT), 0, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(vals-
1229
      #> ^~~
1230
      #> In file included from RSCommon.h:54:0,
1231 #> from RSDTD.h:9,
1232 #> from RSDTD.c:13:
1233 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1234 #> SEXP Rf_mkChar(const char *);
1235 #> ^~~~~~
1236 #> In file included from RSDTD.c:21:0:
      #> RSDTD.c: In function 'RS_XML_createDTDElementAttributes':
1237
1238
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf mkChar' differ in signedness [-Wpointer-
      sign]
1239  #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1240 #> ^
1241
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1243 #> ^~~~~~~~~
1244 #> RSDTD.c:678:33: note: in expansion of macro 'COPY TO USER STRING'
1245 #> SET_STRING_ELT(names, i, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(tmp->name)));
1246
      #> ^~~~~~~~
1247
      #> In file included from RSCommon.h:54:0,
1248  #> from RSDTD.h:9,
1249  #> from RSDTD.c:13:
1250 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1251
      #> SEXP Rf_mkChar(const char *);
1252 #> ^~~~
1253 #> In file included from RSDTD.c:21:0:
1254 #> RSDTD.c: In function 'RS_XML_createDTDAttribute':
1255
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
1256 #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1257 #> ^
1258
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1259
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1260
      #> ^~~~~~~~
1261 #> RSDTD.c:727:63: note: in expansion of macro 'COPY TO USER STRING'
1262 #> SET_STRING_ELT(VECTOR_ELT(ans, DTD_ATTRIBUTE_NAME_SLOT), 0, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(val->name)));
1263
      #> ^~
1264
      #> In file included from RSCommon.h:54:0,
1265
      #> from RSDTD.h:9,
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1266
      #> from RSDTD.c:13:
1267
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1268 #> SEXP Rf_mkChar(const char *);
1269
      #> ^~~~~~
1270
      #> RSDTD.c:737:15: warning: comparison between 'xmlElementType {aka enum }' and 'enum ' [-Wenum-compare]
1271 #> if(val->type == XML_ATTRIBUTE_ENUMERATION) {
1272 #> ^~
1273 #> In file included from RSDTD.c:21:0:
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1274
      sign]
1275
      #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1276 #> ^
1277 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1278
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1279
      #> ^~~~~~~~~~~
      #> RSDTD.c:741:74: note: in expansion of macro 'COPY_TO_USER_STRING'
1280
1281 #> SET_STRING_ELT(VECTOR_ELT(ans, DTD_ATTRIBUTE_DEFAULT_VALUE_SLOT), 0, COPY_TO_USER_STRING( XMLCHAR_TO_CHAR(
       (val->defaultValue ? val->defaultValue : (xmlChar*)""))));
1282
      #> ^~~~~~
1283 #> In file included from RSCommon.h:54:0,
1284 #> from RSDTD.h:9,
1285 #> from RSDTD.c:13:
1286 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1287
      #> SEXP Rf_mkChar(const char *);
1288 #> ^~~~~~
1289 #> In file included from RSDTD.c:21:0:
      #> RSDTD.c: In function 'RS_XML_AttributeEnumerationList':
1290
1291
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
1292
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1293 #> ^
1294
      #> Utils.h:234:40: note: in expansion of macro 'CHAR TO XMLCHAR'
1295 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1296 #> ^~~~~~~~~
1297 #> RSDTD.c:779:30: note: in expansion of macro 'COPY_TO_USER_STRING'
1298 #> SET_STRING_ELT(ans, i, COPY_TO_USER_STRING(XMLCHAR_TO_CHAR(tmp->name)));
1299
      #> ^~~~~~~
1300
      #> In file included from RSCommon.h:54:0,
1301 #> from RSDTD.h:9.
1302 #> from RSDTD.c:13:
1303 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1304 #> SEXP Rf_mkChar(const char *);
1305
1306
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
      DLIBXML -I/usr/include/libxml2 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
      DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
      DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
      D R =1 -DHAVE VALIDITY=1 -DXML REF COUNT NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
      02 -mtune=native -fsanitize=address -c RUtils.c -o RUtils.o
1307 #> In file included from /usr/include/libxml2/libxml/xmlIO.h:117:0,
1308 #> from /usr/include/libxml2/libxml/parser.h:811,
1309 #> from Utils.h:17,
1310
      #> from RUtils.c:1:
      #> RUtils.c: In function 'RS_XML_getStructuredErrorHandler':
1311
1312 #> /usr/include/libxml2/libxml/globals.h:353:1: warning: ISO C forbids passing argument 1 of 'R_MakeExternalPtr'
      between function pointer and 'void *' [-Wpedantic]
1313
      #> (*(__xmlStructuredError()))
1314
      #> ^
1315
      #> RUtils.c:293:46: note: in expansion of macro 'xmlStructuredError'
      #> SET_VECTOR_ELT(ans, 1, R_MakeExternalPtr(xmlStructuredError, Rf_install("xmlStructuredErrorFunc"),
1316
      R_NilValue));
1317
      #> ^~~~~~
1318
      #> In file included from RS_XML.h:32:0,
1319
      #> from Utils.h:8.
1320  #> from RUtils.c:1:
1321 #> /usr/local/lib/R/include/Rinternals.h:928:6: note: expected 'void *' but argument is of type
       'xmlStructuredErrorFunc {aka void (*)(void *, struct _xmlError *)}'
1322 #> SEXP R_MakeExternalPtr(void *p, SEXP tag, SEXP prot);
1323 #> ^~~~
1324 #> RUtils.c: In function 'RS_XML_setStructuredErrorHandler':
      #> RUtils.c:326:44: warning: ISO C forbids conversion of object pointer to function pointer type [-Wpedantic]
1326
      #> handler = (sym == R NilValue) ? NULL : (xmlStructuredErrorFunc) R ExternalPtrAddr(sym);
      #> ^
1327
1328 #> RUtils.c: In function 'CreateCharSexpWithEncoding':
```

```
1329
      #> RUtils.c:343:35: warning: pointer targets in passing argument 2 of 'xmlStrcmp' differ in signedness [-Wpointer-
       signl
1330 #> } else if(xmlStrcmp(encoding, "UTF-8") == 0 || xmlStrcmp(encoding, "utf-8") == 0)
1331 #> ^~~~~
1332
      #> In file included from /usr/include/libxml2/libxml/tree.h:18:0.
1333
      #> from /usr/include/libxml2/libxml/parser.h:16,
1334
      #> from Utils.h:17,
1335  #> from RUtils.c:1:
1336 #> /usr/include/libxml2/libxml/xmlstring.h:64:17: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'char *
1337
      #> xmlStrcmp (const xmlChar *str1,
1338
      #> ^~
1339
      #> RUtils.c:343:72: warning: pointer targets in passing argument 2 of 'xmlStrcmp' differ in signedness [-Wpointer-
      sign]
      #> } else if(xmlStrcmp(encoding, "UTF-8") == 0 || xmlStrcmp(encoding, "utf-8") == 0)
1340
1341 #> ^~~~
1342 #> In file included from /usr/include/libxml2/libxml/tree.h:18:0.
1343 #> from /usr/include/libxml2/libxml/parser.h:16,
1344
      #> from Utils.h:17.
1345
      #> from RUtils.c:1:
1346
      #> /usr/include/libxml2/libxml/xmlstring.h:64:17: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'char *'
      #> xmlStrcmp (const xmlChar *str1,
1347
      #> ^~~~~
1348
      #> RUtils.c:345:33: warning: pointer targets in passing argument 2 of 'xmlStrcmp' differ in signedness [-Wpointer-
1349
      signl
      #> else if(xmlStrcmp(encoding, "ISO-8859-1") == 0 || xmlStrcmp(encoding, "iso-8859-1") == 0)
1351
      #> ^~~
1352
      #> In file included from /usr/include/libxml2/libxml/tree.h:18:0,
1353
      #> from /usr/include/libxml2/libxml/parser.h:16,
1354 #> from Utils.h:17.
1355  #> from RUtils.c:1:
1356 #> /usr/include/libxml2/libxml/xmlstring.h:64:17: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'char *
1357
      #> xmlStrcmp (const xmlChar *str1,
1358 #> ^~~~~~
1359 #> RUtils.c:345:75: warning: pointer targets in passing argument 2 of 'xmlStrcmp' differ in signedness [-Wpointer-
      signl
1360
      #> else if(xmlStrcmp(encoding, "ISO-8859-1") == 0 || xmlStrcmp(encoding, "iso-8859-1") == 0)
1361 #> ^~
1362 #> In file included from /usr/include/libxml2/libxml/tree.h:18:0,
1363 #> from /usr/include/libxml2/libxml/parser.h:16,
1364
      #> from Utils.h:17.
1365
      #> from RUtils.c:1:
1366 #> /usr/include/libxml2/libxml/xmlstring.h:64:17: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'char *'
      #> xmlStrcmp (const xmlChar *str1,
1367
1368
      #> ^~~~
      #> RUtils.c:348:29: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1369
      signl
1370
      #> str = translateChar(mkChar(str));
      #> ^~~
1371
      #> In file included from RS_XML.h:32:0,
1372
1373 #> from Utils.h:8.
1374  #> from RUtils.c:1:
1375 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
1376
      #> SEXP Rf_mkChar(const char *);
1377 #> ^~~~~~
1378 #> RUtils.c:348:6: warning: pointer targets in assignment differ in signedness [-Wpointer-sign]
1379
      #> str = translateChar(mkChar(str));
1380
1381
      #> RUtils.c:351:20: warning: pointer targets in passing argument 1 of 'Rf_mkCharCE' differ in signedness [-
      Wpointer-sign]
1382
      #> ans = mkCharCE(str, enc);
1383
      #> ^~~
1384
      #> In file included from RS_XML.h:32:0,
1385
      #> from Utils.h:8.
1386  #> from RUtils.c:1:
1387 #> /usr/local/lib/R/include/Rinternals.h:911:6: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
1388
      #> SEXP Rf_mkCharCE(const char *, cetype_t);
1389
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
      DLIBXML -I/usr/include/libxm12 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
       DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
```

```
DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
      D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
       O2 -mtune=native -fsanitize=address -c Rcatalog.c -o Rcatalog.o
1391
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
      DLIBXML -I/usr/include/libxml2 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
      DUSE XML VERSION H=1 -DXML ELEMENT ETYPE=1 -DXML ATTRIBUTE ATYPE=1 -DNO XML HASH SCANNER RETURN=1 -
      DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
      D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
      O2 -mtune=native -fsanitize=address -c Utils.c -o Utils.o
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
      DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
       DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
      DLIBXML NAMESPACE HAS CONTEXT=1 -DHAVE R CETYPE T=1 -DHAVE XML WITH ZLIB=1 -DHAVE XML HAS FEATURE=1 -DUSE R=1 -
      D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
      02 -mtune=native -fsanitize=address -c XMLEventParse.c -o XMLEventParse.o
1393
      #> XMLEventParse.c: In function 'R_processBranch':
      #> XMLEventParse.c:383:49: warning: pointer targets in passing argument 3 of 'xmlSetProp' differ in signedness [-
1394
      Wpointer-sign]
1395
      #> xmlSetProp(node, xmlStrdup(ptr[0]), getPropertyValue(ptr));
1396
      #> ^~~~~~~
      #> In file included from /usr/include/libxml2/libxml/parser.h:16:0,
1397
1398 #> from EventParse.h:23.
1399
      #> from XMLEventParse.c:1:
      #> /usr/include/libxml2/libxml/tree.h:1015:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
1400
       argument is of type 'char *'
1401
      #> xmlSetProp (xmlNodePtr node,
      #> ^~~~~~~
1403
      #> XMLEventParse.c: In function 'R_endBranch':
      #> XMLEventParse.c:442:19: warning: pointer targets in passing argument 1 of 'xmlNewDoc' differ in signedness [-
1404
      Wpointer-sign]
1405
      #> doc = xmlNewDoc("1.0");
1406 #> ^~~~
1407
      #> In file included from /usr/include/libxml2/libxml/parser.h:16:0,
1408
      #> from EventParse.h:23,
1409
      #> from XMLEventParse.c:1:
1410 #> /usr/include/libxml2/libxml/tree.h:780:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'char *'
      #> xmlNewDoc (const xmlChar *version);
1411
      #> ^~~~~~
1412
1413  #> In file included from RSCommon.h:55:0,
1414 #> from EventParse.h:11,
1415 #> from XMLEventParse.c:1:
1416
      #> XMLEventParse.c: In function 'RS XML xmlSAX2StartElementNs':
      #> XMLEventParse.c:528:72: warning: pointer targets in passing argument 2 of 'CreateCharSexpWithEncoding' differ
      in signedness [-Wpointer-sign]
      #> SET_NAMES(tmp, ScalarString(CreateCharSexpWithEncoding(encoding, ( (void*)prefix ? XMLCHAR_TO_CHAR(prefix) :
1418
       ""))));
1419
      #> ^
      #> /usr/local/lib/R/include/Rdefines.h:151:57: note: in definition of macro 'SET_NAMES'
1420
1421 #> #define SET_NAMES(x, n) Rf_setAttrib(x, R_NamesSymbol, n)
1422 #> ^
1423
      #> In file included from XMLEventParse.c:5:0:
      #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'char *'
1424
1425 #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
1426 #> ^~~
1427 #> In file included from RSCommon.h:54:0,
1428
      #> from EventParse.h:11,
1429
      #> from XMLEventParse.c:1:
      #> XMLEventParse.c: In function 'RS_XML_xmlSAX2EndElementNs':
1430
1431
      #> Utils.h:12:31: warning: pointer targets in passing argument 2 of 'CreateCharSexpWithEncoding' differ in
       signedness [-Wpointer-sign]
1432
      #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1433
1434
      #> /usr/local/lib/R/include/Rinternals.h:670:31: note: in definition of macro 'PROTECT'
1435
      #> #define PROTECT(s) Rf_protect(s)
      #> ^
1436
1437
      #> Utils.h:235:74: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1438
      #> #define ENC_COPY_TO_USER_STRING(x) CreateCharSexpWithEncoding(encoding, CHAR_TO_XMLCHAR (x))
1439
      #> ^~~
      #> XMLEventParse.c:579:30: note: in expansion of macro 'ENC_COPY_TO_USER_STRING'
      #> PROTECT(tmp = ScalarString(ENC_COPY_TO_USER_STRING((XMLCHAR_TO_CHAR(URI)) ? XMLCHAR_TO_CHAR(URI) : "")));
1441
1442
      #> ^~~
1443
      #> In file included from XMLEventParse.c:5:0:
      #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'char *'
1444
      #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
1446
1447
      #> XMLEventParse.c:584:27: warning: pointer targets in passing argument 1 of 'findEndElementFun' differ in
       signedness [-Wpointer-sign]
```

```
1448 #> fun = findEndElementFun(localname, rinfo);
1449
      #> ^~~~~~~
1450 #> In file included from XMLEventParse.c:1:0:
1451  #> EventParse.h:178:14: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
      char *}'
1452
      #> USER_OBJECT_ findEndElementFun(const char *name, RS_XMLParserData *rinfo);
1453 #> ^~~~~~~
1454 #> In file included from EventParse.h:12:0,
1455 #> from XMLEventParse.c:1:
1456  #> At top level:
      #> RS_XML.h:8:19: warning: 'RS_XML_xmlSAX2StartDocument' defined but not used [-Wunused-function]
1458  #> #define RS_XML(a) RS_XML_##a
1459 #> ^
1460 #> XMLEventParse.c:597:1: note: in expansion of macro 'RS_XML'
1461 #> RS_XML(xmlSAX2StartDocument)(void *userData)
1462
      #> ^~~~~
1463  #> XMLEventParse.c: In function 'RS_XML_readConnectionInput':
1464 #> XMLEventParse.c:181:23: warning: 'arg' may be used uninitialized in this function [-Wmaybe-uninitialized]
1465 #> INTEGER_DATA(arg)[0] = left;
1466
      #> ^
1467
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
      DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
       DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
      DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
      D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
      02 -mtune=native -fsanitize=address -c XMLHashTree.c -o XMLHashTree.o
1468
      #> In file included from XMLHashTree.c:52:0:
1469
      #> XMLHashTree.c: In function 'makeHashNode':
1470
      #> XMLHashTree.c:87:29: warning: pointer targets in passing argument 1 of 'Rf_mkString' differ in signedness [-
      Wpointer-signl
1471
      #> SET_NAMES(tmp, mkString(node->ns->prefix));
1472 #> ^
1473
      #> /usr/local/lib/R/include/Rdefines.h:151:57: note: in definition of macro 'SET NAMES'
1474 #> #define SET_NAMES(x, n) Rf_setAttrib(x, R_NamesSymbol, n)
1475 #> ^
1476 #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1477 #> from XMLHashTree.c:52:
1478
      #> /usr/local/lib/R/include/Rinternals.h:1377:7: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
1479
      #> SEXP Rf_mkString(const char *);
1480 #> ^~~~~~~
1481
      #> In file included from XMLHashTree.c:55:0:
      #> Utils.h:12:31: warning: pointer targets in passing argument 2 of 'CreateCharSexpWithEncoding' differ in
      signedness [-Wpointer-sign]
1483 #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1484
      #> ^
1485
      #> Utils.h:235:74: note: in expansion of macro 'CHAR TO XMLCHAR'
1486
      #> #define ENC_COPY_TO_USER_STRING(x) CreateCharSexpWithEncoding(encoding, CHAR_TO_XMLCHAR (x))
      #> ^~~
1487
1488 #> XMLHashTree.c:93:41: note: in expansion of macro 'ENC_COPY_TO_USER_STRING'
1489 #> SET_VECTOR_ELT(ans, i++, ScalarString(ENC_COPY_TO_USER_STRING(node->ns && node->ns->prefix ?
      XMLCHAR_TO_CHAR(node->ns->prefix) : "")));
1490
      #> ^~~~~~~~
1491 #> In file included from XMLHashTree.c:55:0:
1492 #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'char *'
      #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
1493
1494
1495 #> XMLHashTree.c:99:40: warning: pointer targets in passing argument 1 of 'Rf_mkString' differ in signedness [-
      Wpointer-sign]
1496
      #> SET_VECTOR_ELT(ans, i++, mkString(node->content));
      #> ^~~~
1497
1498
      #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1499
      #> from XMLHashTree.c:52:
1500 #> /usr/local/lib/R/include/Rinternals.h:1377:7: note: expected 'const char *' but argument is of type 'xmlChar *
       {aka unsigned char *}'
1501
      #> SEXP Rf_mkString(const char *);
1502
      #> ^~~
1503 #> In file included from XMLHashTree.c:55:0:
1504 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1505
1506 #> ^
1507 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1508  #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1509
      #> ^~~~~~~~~~~
      #> XMLHashTree.c:109:34: note: in expansion of macro 'COPY_TO_USER_STRING'
1510
1511  #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("value"));
```

```
1513
      #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1514 #> from XMLHashTree.c:52:
1515 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1516
      #> SEXP Rf_mkChar(const char *);
      #> ^~~~~~
1517
1518
      #> In file included from XMLHashTree.c:55:0:
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf mkChar' differ in signedness [-Wpointer-
1519
      signl
1520
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
      #> ^
1521
#> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
#> #define COPY TO USER STRING(x) mkChar(CHAR TO XMLCHAR (x))
1524
      #> ^~~~~~~~~~
1525
      #> XMLHashTree.c:111:34: note: in expansion of macro 'COPY TO USER STRING'
1526
      #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("namespaceDefinitions"));
1527 #> ^~~~~~~
1528 #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1529 #> from XMLHashTree.c:52:
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
1530
       {aka unsigned char *}'
1531 #> SEXP Rf_mkChar(const char *);
1532 #> ^~~~~~
1533 #> In file included from XMLHashTree.c:55:0:
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
1535 #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1536 #> ^
1537
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1538
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1539
      #> ^~~~~~~
1540 #> XMLHashTree.c:120:30: note: in expansion of macro 'COPY_TO_USER_STRING'
1541 #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("XMLHashTreeNode"));
1542
      #> ^~~~~~~~~~~~
1543
      #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1544
      #> from XMI HashTree.c:52:
1545 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1546
      #> SEXP Rf_mkChar(const char *);
1547
      #> ^~~
1548 #> In file included from XMLHashTree.c:55:0:
1549 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
1550
      #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1551 #> ^
#> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1553 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
      #> ^~~~~~~~
1554
      #> XMLHashTree.c:122:33: note: in expansion of macro 'COPY_TO_USER_STRING'
1555
1556 #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("XMLTextNode"));
1557 #> ^~~
1558 #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1559
      #> from XMLHashTree.c:52:
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1561 #> SEXP Rf_mkChar(const char *);
1562 #> ^~~~~~
1563
      #> In file included from XMLHashTree.c:55:0:
1564 #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
1565  #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1566
      #> ^
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1568 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1569 #> ^~~~~~~~~~
1570 #> XMLHashTree.c:124:33: note: in expansion of macro 'COPY_TO_USER_STRING'
1571 #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("XMLCommentNode"));
1573
      #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1574 #> from XMLHashTree.c:52:
1575 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1576
      #> SEXP Rf_mkChar(const char *);
1577
      #> ^~~~~~
1578 #> In file included from XMLHashTree.c:55:0:
1579
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      sign]
1580
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
```

```
1581 #> ^
1582
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1583 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
#> XMLHashTree.c:126:33: note: in expansion of macro 'COPY_TO_USER_STRING'
      #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("XMLCDataNode"));
1586
      #> ^~~~
1587
1588 #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
      #> from XMLHashTree.c:52:
1590 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1591
      #> SEXP Rf_mkChar(const char *);
1592 #> ^~~~~~
1593 #> In file included from XMLHashTree.c:55:0:
1594 \# Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
      signl
1595 #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1596 #> ^
1597 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
      #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1598
1599
      #> XMLHashTree.c:128:33: note: in expansion of macro 'COPY_TO_USER_STRING'
1600
1601 #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("XMLPINode"));
1602 #> ^~~~~~~~~~
1603
      #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1604
      #> from XMLHashTree.c:52:
1605 #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1606
      #> SEXP Rf_mkChar(const char *);
1607
      #> ^~~~~~
1608
      #> In file included from XMLHashTree.c:55:0:
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1609
      sign]
      #> #define CHAR_TO_XMLCHAR(val) ((xmlChar *) val)
1610
      #> ^
1612 #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1613 #> #define COPY_TO_USER_STRING(x) mkChar(CHAR_TO_XMLCHAR (x))
1614 #> ^~~~~~~~~
      #> XMLHashTree.c:130:30: note: in expansion of macro 'COPY TO USER STRING'
1615
      #> SET_STRING_ELT(names, i++, COPY_TO_USER_STRING("XMLNode"));
1617
      #> ^~~~
1618 #> In file included from /usr/local/lib/R/include/Rdefines.h:36:0,
1619 #> from XMLHashTree.c:52:
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
1620
      {aka unsigned char *}'
1621 #> SEXP Rf_mkChar(const char *);
1622 #> ^~~~~~
1623 #> XMLHashTree.c: In function 'collectChildNodes':
      #> XMLHashTree.c:66:47: warning: format '%p' expects argument of type 'void *', but argument 3 has type
       'xmlNodePtr {aka struct _xmlNode *}' [-Wformat=]
#> #define SET_NODE_NAME(x, id, node) sprintf(x, "%p", node)
1626 #> ^
#> XMLHashTree.c:165:6: note: in expansion of macro 'SET_NODE_NAME'
      #> SET_NODE_NAME(buf, *ctr + 1, node);
1629
      #> ^~~~~~~
1630 #> XMLHashTree.c: In function 'processNode':
1631 #> XMLHashTree.c:66:47: warning: format '%p' expects argument of type 'void *', but argument 3 has type
       'xmlNodePtr {aka struct xmlNode *}' [-Wformat=]
1632
      #> #define SET_NODE_NAME(x, id, node) sprintf(x, "%p", node)
1633 #> ^
1634 #> XMLHashTree.c:191:3: note: in expansion of macro 'SET_NODE_NAME'
1635 #> SET_NODE_NAME(id, curId, root);
      #> ^~~~~~~~
1636
      #> XMLHashTree.c:66:47: warning: format '%p' expects argument of type 'void *', but argument 3 has type
1637
       'xmlNodePtr {aka struct xmlNode *}' [-Wformat=]
1638 #> #define SET_NODE_NAME(x, id, node) sprintf(x, "%p", node)
1639
      #> ^
1640
      #> XMLHashTree.c:204:6: note: in expansion of macro 'SET_NODE_NAME'
1641 #> SET_NODE_NAME(id, curId, root);
1642 #> ^~~~~~~
1643 #> XMLHashTree.c:66:47: warning: format '%p' expects argument of type 'void *', but argument 3 has type
       'xmlNodePtr {aka struct xmlNode *}' [-Wformat=]
1644
      #> #define SET_NODE_NAME(x, id, node) sprintf(x, "%p", node)
1645 #> ^
1646 #> XMLHashTree.c:205:6: note: in expansion of macro 'SET_NODE_NAME'
1647 #> SET_NODE_NAME(buf, parentId, parent);
1648
```

```
#> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
1649
         DLIBXML -I/usr/include/libxm12 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
         DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
         DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
         D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
         02 -mtune=native -fsanitize=address -c XMLTree.c -o XMLTree.o
1650
         #> In file included from /usr/include/string.h:630:0,
1651
        #> from /usr/local/lib/R/include/R_ext/RS.h:31,
1652
         #> from /usr/local/lib/R/include/Rdefines.h:33,
1653
         #> from RSCommon.h:55,
1654
         #> from XMLTree.c:25:
         #> XMLTree.c: In function 'removeNodeNamespaceByName':
         #> XMLTree.c:224:55: warning: pointer targets in passing argument 1 of '_builtin_strlen' differ in signedness [-
1656
         Wpointer-signl
1657
         #> if(!(id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1658
1659
         #> XMLTree.c:224:55: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
          char *}'
1660
         #> XMLTree.c:224:55: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
         Wpointer-sign]
1661
         #> if(!(id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1662
         #> ^
         #> XMLTree.c:224:55: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1663
1664
         #> XMLTree.c:224:55: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
         Wpointer-sign]
1665
          #> if(!(id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1666
         #> XMLTree.c:224:55: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1667
          char *}'
         #> XMLTree.c:224:55: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
1668
         Wpointer-sign]
1669
         #> if(!(id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1670
         #> ^
         #> XMLTree.c:224:55: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1671
          char *}'
         #> XMLTree.c:224:55: warning: pointer targets in passing argument 1 of '_builtin_strcmp' differ in signedness [-
1672
         Wpointer-signl
         \# if(!(id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1673
1674
1675
         #> XMLTree.c:224:55: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
         char *}'
1676
         #> XMLTree.c:224:55: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
         Wpointer-sign]
1677
         \# if(!(id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
         #> ^
1678
         #> XMLTree.c:224:55: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1679
         char *}'
1680
         #> XMLTree.c:233:52: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
         Wpointer-signl
         #> if((!id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1681
1682
         #> ^
1683
         #> XMLTree.c:233:52: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
          char *}'
1684
         #> XMLTree.c:233:52: warning: pointer targets in passing argument 1 of ' builtin strcmp' differ in signedness [-
         Wpointer-sign]
1685
         #> if((!id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
         #> ^
1686
         #> XMLTree.c:233:52: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1687
          char *}'
         #> XMLTree.c:233:52: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
1688
          Wpointer-sign]
1689
         #> if((!id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
         \#> XMLTree.c:233:52: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned type for type 
1691
          char *}
1692
         #> XMLTree.c:233:52: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
         Wpointer-sign]
1693
         \# if((!id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1694
         #> ^
1695
         #> XMLTree.c:233:52: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
          char *}'
1696
         #> XMLTree.c:233:52: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
         Wpointer-signl
         #> if((!id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1697
         #> ^
1698
1699
         #> XMLTree.c:233:52: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
         char *}'
```

```
1700
      #> XMLTree.c:233:52: warning: pointer targets in passing argument 1 of '_builtin_strcmp' differ in signedness [-
      Wpointer-signl
      #> if((!id[0] && !p->prefix) || (p->prefix && strcmp(p->prefix, id) == 0)) {
1701
1702 #> ^
1703
      #> XMLTree.c:233:52: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
      #> XMLTree.c: In function 'RS_XML_removeNodeNamespaces':
1704
      #> XMLTree.c:308:56: warning: pointer targets in passing argument 2 of 'removeNodeNamespaceByName' differ in
      signedness [-Wpointer-sign]
1706
      #> LOGICAL(ans)[i] = removeNodeNamespaceByName(node, p->prefix);
1707
      #> XMLTree.c:216:1: note: expected 'const char * const' but argument is of type 'const xmlChar * {aka const
1708
      unsigned char *}'
1709
      #> removeNodeNamespaceByName(xmlNodePtr node, const char * const id)
      #> ^~~~~~~
1710
1711
      #> In file included from RSCommon.h:54:0,
1712  #> from XMLTree.c:25:
1713 #> XMLTree.c: In function 'R_insertXMLNode':
1714
      #> /usr/local/lib/R/include/Rinternals.h:453:18: warning: pointer targets in passing argument 1 of 'xmlNewText'
      differ in signedness [-Wpointer-sign]
      #> #define CHAR(x) R_CHAR(x)
1715
1716 #> ^
1717
      #> XMLTree.c:503:23: note: in expansion of macro 'CHAR'
      #> n = xmlNewText(CHAR(STRING_ELT(node, i)));
1718
      #> ^~~~
1719
1720 #> In file included from /usr/include/libxml2/libxml/parser.h:16:0,
1721 #> from /usr/include/libxml2/libxml/parserInternals.h:16,
1722 #> from XMLTree.c:33:
1723
      #> /usr/include/libxml2/libxml/tree.h:853:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
       argument is of type 'const char *
1724 #> xmlNewText (const xmlChar *content);
1725 #> ^~~~~~~
1726
      #> XMLTree.c:483:22: warning: variable 'check' set but not used [-Wunused-but-set-variable]
1727
      #> xmlNodePtr n, p, check, tmp = NULL;
1728
      #> ^~~~
      #> XMLTree.c: In function 'R_newXMLDoc':
1729
1730 #> XMLTree.c:743:21: warning: pointer targets in passing argument 1 of 'htmlNewDoc' differ in signedness [-
      Wpointer-sign]
1731
      #> doc = htmlNewDoc("", NULL);
1732
      #> ^~
1733 #> In file included from XMLTree.c:35:0:
1734 \# /usr/include/libxml2/libxml/HTMLtree.h:63:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'char *'
1735 #> htmlNewDoc (const xmlChar *URI,
1736 #> ^~~~~~
1737 #> In file included from RSCommon.h:54:0,
1738
      #> from XMI Tree.c:25:
      #> XMLTree.c: In function 'R_convertXMLNsRef':
      #> XMLTree.c:954:27: warning: pointer targets in passing argument 1 of 'Rf_mkString' differ in signedness [-
1740
      Wpointer-signl
1741
      #> PROTECT(ans = mkString(ns->href));
1742
      #> ^
1743
      #> /usr/local/lib/R/include/Rinternals.h:670:31: note: in definition of macro 'PROTECT'
1744  #> #define PROTECT(s) Rf_protect(s)
1745 #> ^
1746 #> /usr/local/lib/R/include/Rinternals.h:1377:7: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
1747
      #> SEXP Rf_mkString(const char *);
1748 #> ^~~~~~
1749 #> XMLTree.c:944:8: warning: unused variable 'ref' [-Wunused-variable]
1750
      #> SEXP ref, ans;
1751
1752
      #> XMLTree.c: In function 'R_addXMLNodeFinalizer':
1753 #> XMLTree.c:1128:15: warning: unused variable 'node' [-Wunused-variable]
1754 #> xmlNodePtr node = (xmlNodePtr) R_ExternalPtrAddr(r_node);
1755
      #> ^~~~
      #> XMLTree.c: In function 'RS_XML_printXMLNode':
1757
      #> XMLTree.c:1456:55: warning: pointer targets in passing argument 1 of 'CreateCharSexpWithEncoding' differ in
      signedness [-Wpointer-sign]
      #> ans = ScalarString(CreateCharSexpWithEncoding(encoding, xbuf->content));
1758
1759
      #> ^~~~~~
1760
      #> In file included from XMLTree.c:40:0:
      #> Utils.h:220:6: note: expected 'const xmlChar * {aka const unsigned char *}' but argument is of type 'const char
1761
1762
      #> SEXP CreateCharSexpWithEncoding(const xmlChar *encoding, const xmlChar *str);
1763
1764
      #> XMLTree.c:1458:37: warning: pointer targets in passing argument 1 of 'Rf_mkCharCE' differ in signedness [-
      Wpointer-sign]
```

```
1765
     #> ans = ScalarString(mkCharCE(xbuf->content, INTEGER(r encoding int)[0]));
1766
      #> ^~~~
1767 #> In file included from RSCommon.h:54:0,
1768 #> from XMLTree.c:25:
1769 #> /usr/local/lib/R/include/Rinternals.h:911:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1770 #> SEXP Rf_mkCharCE(const char *, cetype_t);
1771 #> ^~~
1772 #> XMLTree.c: In function 'R setXMLInternalTextNode value':
1773  #> XMLTree.c:1495:25: warning: pointer targets in passing argument 2 of 'xmlNodeSetContent' differ in signedness
      [-Wpointer-sign]
1774 #> xmlNodeSetContent(n, str);
1775 #> ^~~
1776 #> In file included from /usr/include/libxml2/libxml/parser.h:16:0,
1777
      #> from /usr/include/libxml2/libxml/parserInternals.h:16,
1778
      #> from XMLTree.c:33:
1779 #> /usr/include/libxml2/libxml/tree.h:1060:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'const char *'
1780
      #> xmlNodeSetContent (xmlNodePtr cur,
1781
      #> ^~~
1782
      #> In file included from XMLTree.c:40:0:
1783 #> Utils.h:222:56: warning: unused variable 'encoding' [-Wunused-variable]
1784 #> #define DECL_ENCODING_FROM_NODE(node) const xmlChar *encoding = node->doc ? node->doc->encoding : NULL;
1785
     #> ^
1786
      #> XMLTree.c:1487:4: note: in expansion of macro 'DECL_ENCODING_FROM_NODE'
1787 #> DECL_ENCODING_FROM_NODE(n)
1788 #> ^~~~~~~~~~~~~~
1789 #> XMLTree.c: In function 'R_xmlNodeValue':
     #> XMLTree.c:1536:37: warning: pointer targets in passing argument 1 of 'Rf_mkCharCE' differ in signedness [-
1791 #> ans = ScalarString(mkCharCE(tmp, INTEGER(r_encoding)[0]));
1792 #> ^~~
1793 #> In file included from RSCommon.h:54:0,
1794
      #> from XMLTree.c:25:
      #> /usr/local/lib/R/include/Rinternals.h:911:6: note: expected 'const char *' but argument is of type 'xmlChar *
      {aka unsigned char *}'
1796 #> SEXP Rf_mkCharCE(const char *, cetype_t);
1797
     #> ^~~~~~~
1798
      #> XMLTree.c: In function 'R_xmlSearchNs':
1799
      #> XMLTree.c:1695:39: warning: comparison of distinct pointer types lacks a cast
1800 #> xmlDocPtr doc = (xmlDocPtr) r_doc == NULL_USER_OBJECT ? NULL : R_ExternalPtrAddr(r_doc);
1802 #> XMLTree.c:1703:58: warning: pointer targets in passing argument 3 of 'xmlSearchNs' differ in signedness [-
1804 #> ^~~
1805 #> In file included from /usr/include/libxml2/libxml/parser.h:16:0,
1806
      #> from /usr/include/libxml2/libxml/parserInternals.h:16,
      #> from XMLTree.c:33:
1808 #> /usr/include/libxml2/libxml/tree.h:987:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'const char *'
1809
      #> xmlSearchNs (xmlDocPtr doc,
      #> ^~~~~~~
1810
      #> XMLTree.c:1703:94: warning: pointer targets in passing argument 3 of 'xmlSearchNsByHref' differ in signedness
      [-Wpointer-sign]
1812 #> ns = LOGICAL(r_asPrefix)[0] ? xmlSearchNs(doc, node, val) : xmlSearchNsByHref(doc, node, val);
1813
      #> ^~~
1814
      #> In file included from /usr/include/libxml2/libxml/parser.h:16:0,
1815
      #> from /usr/include/libxml2/libxml/parserInternals.h:16,
1816  #> from XMLTree.c:33:
1817 #> /usr/include/libxml2/libxml/tree.h:991:3: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'const char *
1818
      #> xmlSearchNsByHref (xmlDocPtr doc,
1819 #> ^~~~
1820 #> In file included from RSCommon.h:54:0,
1821 #> from XMLTree.c:25:
      \#> XMLTree.c:1709:28: warning: pointer targets in passing argument 1 of 'Rf_mkString' differ in signedness [-
1822
      Wpointer-sign]
1823 #> PROTECT(r_ans = mkString(ns->href));
1824 #> ^
1825
      #> /usr/local/lib/R/include/Rinternals.h:670:31: note: in definition of macro 'PROTECT'
1826
      #> #define PROTECT(s) Rf_protect(s)
1827
      #> ^
1828 #> /usr/local/lib/R/include/Rinternals.h:1377:7: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
      #> SEXP Rf_mkString(const char *);
1829
1830
      #> ^~~
      #> XMLTree.c: In function 'R_getChildByIndex':
1831
```

```
1832 #> XMLTree.c:1720:22: warning: unused variable 'parent' [-Wunused-variable]
1833
      #> xmlNodePtr node, parent, ptr;
1834 #> ^~~~~
1835 #> In file included from /usr/include/string.h:630:0,
1836 #> from /usr/local/lib/R/include/R_ext/RS.h:31,
      #> from /usr/local/lib/R/include/Rdefines.h:33,
1837
1838
      #> from RSCommon.h:55,
1839
      #> from XMLTree.c:25:
      #> XMLTree.c: In function 'R_getChildByName':
1841 #> XMLTree.c:1745:31: warning: pointer targets in passing argument 1 of '_builtin_strlen' differ in signedness [-
      Wpointer-sign]
1842
      #> if(ptr->name && strcmp(name, ptr->name) == 0)
      #> ^
1843
      #> XMLTree.c:1745:31: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1844
      char *}'
1845
      #> XMLTree.c:1745:31: warning: pointer targets in passing argument 2 of '__builtin_strcmp' differ in signedness [-
      Wpointer-signl
1846
      #> if(ptr->name && strcmp(name, ptr->name) == 0)
1847
      #> ^
1848
      #> XMLTree.c:1745:31: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
      char *}'
1849
      #> XMLTree.c:1745:31: warning: pointer targets in passing argument 2 of '_builtin_strcmp' differ in signedness [-
      Wpointer-sign]
1850
      #> if(ptr->name && strcmp(name, ptr->name) == 0)
1851
      #> ^
      #> XMLTree.c:1745:31: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1852
       char *}'
1853
      #> XMLTree.c:1745:31: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
1854
      #> if(ptr->name && strcmp(name, ptr->name) == 0)
1855
      #> XMLTree.c:1745:31: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
1856
      #> XMLTree.c:1745:31: warning: pointer targets in passing argument 2 of '__builtin_strcmp' differ in signedness [-
1857
      Wpointer-signl
1858
      #> if(ptr->name && strcmp(name, ptr->name) == 0)
1859
      #> ^
1860
      #> XMLTree.c:1745:31: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
      char *}'
1861
      #> XMLTree.c:1745:31: warning: pointer targets in passing argument 2 of '__builtin_strcmp' differ in signedness [-
      Wpointer-signl
1862
      #> if(ptr->name && strcmp(name, ptr->name) == 0)
      #> ^
1863
1864
      #> XMLTree.c:1745:31: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned
      char *}'
1865
      #> XMLTree.c:1739:16: warning: unused variable 'idx' [-Wunused-variable]
1866
      #> int i = 0, idx;
      #> ^~~
1867
1868 #> XMLTree.c:1739:9: warning: unused variable 'i' [-Wunused-variable]
1869
      #> int i = 0. idx:
1870
1871
      #> XMLTree.c:1738:22: warning: unused variable 'parent' [-Wunused-variable]
1872 #> xmlNodePtr node, parent, ptr;
1873 #> ^~~~
1874
      #> XMLTree.c: In function 'R_childStringValues':
1875
      #> XMLTree.c:1790:22: warning: pointer targets in passing argument 1 of 'Rf_mkCharCE' differ in signedness [-
      Wpointer-sign]
1876
      #> SEXP val = mkCharCE(tmp, encoding);
1877
      #> ^~~
1878
      #> In file included from RSCommon.h:54:0.
1879
      #> from XMLTree.c:25:
      #> /usr/local/lib/R/include/Rinternals.h:911:6: note: expected 'const char *' but argument is of type 'xmlChar *
1880
      {aka unsigned char *}'
1881
      #> SEXP Rf mkCharCE(const char *, cetype t);
1882
      #> XMLTree.c:1797:40: warning: pointer targets in passing argument 1 of 'Rf_mkCharCE' differ in signedness [-
1883
      Wpointer-signl
1884
      #> SET_STRING_ELT(names, i, mkCharCE(kid->name, encoding));
1885
      #> ^~~
1886
      #> In file included from RSCommon.h:54:0,
1887
      #> from XMLTree.c:25:
      #> /usr/local/lib/R/include/Rinternals.h:911:6: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
1889
      #> SEXP Rf mkCharCE(const char *, cetype t);
1890
      #> ^~~~
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
1891
      DLIBXML -I/usr/include/libxm12 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
      DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
```

```
DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
       D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
       O2 -mtune=native -fsanitize=address -c fixNS.c -o fixNS.o
1892
       #> In file included from /usr/include/string.h:630:0.
1893
      #> from /usr/local/lib/R/include/R_ext/RS.h:31,
1894
      #> from /usr/local/lib/R/include/Rdefines.h:33,
1895
      #> from RSCommon.h:55.
1896
      #> from fixNS.c:3:
       #> fixNS.c: In function 'fixDummyNS':
1897
       #> fixNS.c:32:21: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
1898
       Wpointer-signl
1899
       #> if(ns && strcmp(ns->href, "") == 0)
1900
       #> ^
       #> fixNS.c:32:21: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1901
       *}'
       #> fixNS.c:32:21: warning: pointer targets in passing argument 1 of ' builtin strcmp' differ in signedness [-
1902
       Wpointer-sign]
1903
       #> if(ns && strcmp(ns->href, "") == 0)
       #> ^
1904
       #> fixNS.c:32:21: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1905
       *}'
1906
       #> fixNS.c:32:21: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
       Wpointer-sign]
1907
       #> if(ns && strcmp(ns->href, "") == 0)
1908
       #> ^
1909
       #> fixNS.c:32:21: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
1910
       #> fixNS.c:32:21: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
       Wpointer-sign]
1911
       #> if(ns && strcmp(ns->href, "") == 0)
      #> ^
1912
1913
       #> fixNS.c:32:21: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
1914
       #> fixNS.c:32:21: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
       Wpointer-signl
1915
       #> if(ns && strcmp(ns->href, "") == 0)
1916
       #> ^
1917
       #> fixNS.c:32:21: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
1918
       #> fixNS.c:32:21: warning: pointer targets in passing argument 1 of '_builtin_strcmp' differ in signedness [-
       Wpointer-sign]
1919
       #> if(ns && strcmp(ns->href, "") == 0)
1920
       #> ^
1921
      #> fixNS.c:32:21: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
       #> fixNS.c: In function 'findNSByPrefix':
1922
       #> fixNS.c:75:37: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
1923
       Wpointer-signl
1924
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1925
       #> ^
       #> fixNS.c:75:37: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1926
       *}'
1927
       #> fixNS.c:75:50: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
       Wpointer-sign]
1928
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1929
       #> fixNS.c:75:50: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1930
       *}'
       #> fixNS.c:75:37: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
1931
1932
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1933
       #> ^
       #> fixNS.c:75:37: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1934
1935
       #> fixNS.c:75:50: warning: pointer targets in passing argument 2 of '__builtin_strcmp' differ in signedness [-
       Wpointer-sign]
1936
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
       #> ^
1937
       #> fixNS.c:75:50: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1938
       *}'
       #> fixNS.c:75:37: warning: pointer targets in passing argument 1 of '__builtin_strlen' differ in signedness [-
1939
       Wpointer-signl
1940
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1941
       #> ^
1942
       #> fixNS.c:75:37: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
       #> fixNS.c:75:37: warning: pointer targets in passing argument 1 of '__builtin_strcmp' differ in signedness [-
1943
```

```
#> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1944
      #> ^
1945
1946
      #> fixNS.c:75:37: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
1947
      #> fixNS.c:75:50: warning: pointer targets in passing argument 2 of '__builtin_strcmp' differ in signedness [-
1948
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1949
1950
       #> fixNS.c:75:50: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
       #> fixNS.c:75:50: warning: pointer targets in passing argument 1 of '_builtin_strlen' differ in signedness [-
1951
       Wpointer-signl
1952
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
       #> ^
1953
       #> fixNS.c:75:50: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1954
       *}'
       #> fixNS.c:75:37: warning: pointer targets in passing argument 1 of '_builtin_strcmp' differ in signedness [-
1955
       Wpointer-signl
1956
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
       #> ^
1957
1958
       #> fixNS.c:75:37: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
       *}'
1959
      #> fixNS.c:75:50: warning: pointer targets in passing argument 2 of '__builtin_strcmp' differ in signedness [-
       Wpointer-sign]
1960
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1961
       #> ^
       #> fixNS.c:75:50: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1962
       *}'
       #> fixNS.c:75:37: warning: pointer targets in passing argument 1 of ' builtin strcmp' differ in signedness [-
1963
       Wpointer-sign]
1964
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1965
       #> fixNS.c:75:37: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1966
       #> fixNS.c:75:50: warning: pointer targets in passing argument 2 of '_builtin_strcmp' differ in signedness [-
1967
       Wpointer-sign]
1968
       #> if(prefix && ptr->prefix && strcmp(ptr->prefix, prefix) == 0)
1969
       #> ^
       #> fixNS.c:75:50: note: expected 'const char *' but argument is of type 'const xmlChar * {aka const unsigned char
1970
       *}'
       #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
1971
       DLIBXML -I/usr/include/libxml2 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
       DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
       DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
       D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
       O2 -mtune=native -fsanitize=address -c libxmlFeatures.c -o libxmlFeatures.o
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
1972
       DLIBXML -I/usr/include/libxml2 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
       DUSE XML VERSION H=1 -DXML ELEMENT ETYPE=1 -DXML ATTRIBUTE ATYPE=1 -DNO XML HASH SCANNER RETURN=1 -
       DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
       D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
       O2 -mtune=native -fsanitize=address -c schema.c -o schema.o
1973
      #> In file included from schema.c:7:0:
1974
      #> schema.c: In function 'getKeys':
      #> Utils.h:12:31: warning: pointer targets in passing argument 1 of 'Rf_mkChar' differ in signedness [-Wpointer-
1975
       signl
1976
      #> #define CHAR TO XMLCHAR(val) ((xmlChar *) val)
1977
      #> ^
1978
      #> Utils.h:234:40: note: in expansion of macro 'CHAR_TO_XMLCHAR'
1979
      #> #define COPY TO USER STRING(x) mkChar(CHAR TO XMLCHAR (x))
1980
      #> schema.c:78:37: note: in expansion of macro 'COPY_TO_USER_STRING'
1981
      #> SET_STRING_ELT(d->names, d->pos, COPY_TO_USER_STRING(name));
1983
      #> ^~~~~~~~~
1984
      #> In file included from RS XML.h:32:0,
1985
       #> from schema.c:1:
1986
      #> /usr/local/lib/R/include/Rinternals.h:843:6: note: expected 'const char *' but argument is of type 'xmlChar *
       {aka unsigned char *}'
1987
       #> SEXP Rf_mkChar(const char *);
1988
       #> ^~~~~~
1989
      #> schema.c: In function 'R_libxmlTypeTable_lookup':
      #> /usr/local/lib/R/include/Rinternals.h:453:18: warning: pointer targets in passing argument 2 of 'xmlHashLookup'
1990
       differ in signedness [-Wpointer-sign]
1991
      #> #define CHAR(x) R CHAR(x)
1992
      #> ^
      #> RSCommon.h:140:27: note: in expansion of macro 'CHAR'
1993
      #> #define CHAR_DEREF(x) CHAR((x))
1995
```

```
1996
      #> schema.c:122:25: note: in expansion of macro 'CHAR DEREF'
1997
      #> p = xmlHashLookup(t, CHAR_DEREF(STRING_ELT(name, 0)));
1998 #> ^~~~~
1999 #> In file included from /usr/include/libxml2/libxml/parser.h:18:0,
2000
      #> from schema.c:3:
      #> /usr/include/libxml2/libxml/hash.h:170:4: note: expected 'const xmlChar * {aka const unsigned char *}' but
      argument is of type 'const char *'
      #> xmlHashLookup (xmlHashTablePtr table,
2003 #> ^~~~
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
2004
       DLIBXML -I/usr/include/libxml2 -DUSE_EXTERNAL_SUBSET=1 -DROOT_HAS_DTD_NODE=1 -DDUMP_WITH_ENCODING=1 -
      DUSE XML VERSION H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
      DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
       D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
      O2 -mtune=native -fsanitize=address -c xmlsecurity.c -o xmlsecurity.o
      #> xmlsecurity.c:32:12: warning: 'foo' defined but not used [-Wunused-variable]
2006
      #> static int foo;
2007
      #> ^~~
2008
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
      DLIBXML -I/usr/include/libxml2 -DUSE EXTERNAL SUBSET=1 -DROOT HAS DTD NODE=1 -DDUMP WITH ENCODING=1 -
      DUSE_XML_VERSION_H=1 -DXML_ELEMENT_ETYPE=1 -DXML_ATTRIBUTE_ATYPE=1 -DNO_XML_HASH_SCANNER_RETURN=1 -
      DLIBXML_NAMESPACE_HAS_CONTEXT=1 -DHAVE_R_CETYPE_T=1 -DHAVE_XML_WITH_ZLIB=1 -DHAVE_XML_HAS_FEATURE=1 -DUSE_R=1 -
      D_R_=1 -DHAVE_VALIDITY=1 -DXML_REF_COUNT_NODES=1 -I. -DLIBXML2=1 -I/usr/local/include -fpic -pipe -Wall -pedantic -
      02 -mtune=native -fsanitize=address -c xpath.c -o xpath.o
2009
      #> In file included from RSCommon.h:55:0,
2010
      #> from Utils.h:9,
2011
      #> from xpath.c:3:
2012 #> xpath.c: In function 'convertNodeSetToR':
      #> xpath.c:37:41: warning: pointer targets in passing argument 1 of 'Rf_mkCharCE' differ in signedness [-Wpointer-
      signl
2014
      #> SET_NAMES(ref, ScalarString(mkCharCE(el->name, encoding)));
2015
      #> ^
2016 #> /usr/local/lib/R/include/Rdefines.h:151:57: note: in definition of macro 'SET_NAMES'
2017 #> #define SET_NAMES(x, n) Rf_setAttrib(x, R_NamesSymbol, n)
2018
      #> ^
2019
      #> In file included from RS_XML.h:32:0,
2020
      #> from xpath.c:1:
2021 #> /usr/local/lib/R/include/Rinternals.h:911:6: note: expected 'const char *' but argument is of type 'const
      xmlChar * {aka const unsigned char *}'
2022
      #> SEXP Rf_mkCharCE(const char *, cetype_t);
2023
      #> ^~~~~~~~
2024 #> xpath.c: In function 'R_addXMLInternalDocument_finalizer':
2025 #> xpath.c:170:11: warning: ISO C forbids conversion of object pointer to function pointer type [-Wpedantic]
2026
      #> action = (R_CFinalizer_t) R_ExternalPtrAddr(fun);
2027
      #> ^
2028
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
      L/usr/local/lib -o XML.so DocParse.o EventParse.o ExpatParse.o HTMLParse.o NodeGC.o RSDTD.o RUtils.o Rcatalog.o
      Utils.o XMLEventParse.o XMLHashTree.o XMLTree.o fixNS.o libxmlFeatures.o schema.o xmlsecurity.o xpath.o -lxml2 -lz -
      lxml2 -L/usr/local/lib/R/lib -lR
2029 #> installing to /home/docker/R/XML/libs
2030 #> ** R
2031 #> ** inst
2032 #> ** preparing package for lazy loading
      #> Creating a generic function for 'source' from package 'base' in package 'XML'
      #> in method for 'xmlAttrsToDataFrame' with signature '"AsIs"': no definition for class "AsIs"
2034
2035 #> in method for 'readKeyValueDB' with signature ("AsIs"': no definition for class "AsIs"
2036 #> in method for 'readSolrDoc' with signature '"AsIs"': no definition for class "AsIs"
      #> ** help
2037
2038
      #> *** installing help indices
      #> ** building package indices
2039
2040  #> ** testing if installed package can be loaded
2041  #> * creating tarball
2042 #> packaged installation of 'XML' as 'XML_3.98-1.5_R_x86_64-pc-linux-gnu.tar.gz'
      #> * DONE (XML)
2044
      #> * installing *source* package 'yaml' ...
2045  #> ** package 'yaml' successfully unpacked and MD5 sums checked
2046  #> ** libs
2047 #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c api.c -o api.o
2048  #> api.c: In function 'yaml_document_delete':
2049 #> api.c:1133:7: warning: variable 'context' set but not used [-Wunused-but-set-variable]
2050 #> } context;
2051
      #> ^~~~~~
2052
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c dumper.c -o
      dumper.o
```

```
#> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
2053
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c emitter.c -o
      emitter.o
2054
      #> emitter.c: In function 'yaml_emitter_write_plain_scalar':
2055
      #> emitter.c:28:6: warning: value computed is not used [-Wunused-value]
      #> && ((emitter->line_break == YAML_CR_BREAK ? \
2056
2057 #> ^
2058 #> emitter.c:56:11: note: in expansion of macro 'PUT_BREAK'
2059 #> (PUT_BREAK(emitter), \
2060
      #> ^~~~~~
2061
      #> emitter.c:1933:18: note: in expansion of macro 'WRITE_BREAK'
2062
      #> if (!WRITE_BREAK(emitter, string)) return 0;
2064
      #> emitter.c: In function 'yaml_emitter_write_single_quoted_scalar':
2065
      #> emitter.c:28:6: warning: value computed is not used [-Wunused-value]
2066
      #> && ((emitter->line_break == YAML_CR_BREAK ? \
2067
      #> ^
2068 #> emitter.c:56:11: note: in expansion of macro 'PUT_BREAK'
2069 #> (PUT_BREAK(emitter), \
2070
      #> ^~~~~~~
2071
      #> emitter.c:1994:18: note: in expansion of macro 'WRITE_BREAK'
2072 #> if (!WRITE_BREAK(emitter, string)) return 0;
2074 #> emitter.c: In function 'yaml_emitter_write_literal_scalar':
2075
      #> emitter.c:28:6: warning: value computed is not used [-Wunused-value]
2076
      #> && ((emitter->line_break == YAML_CR_BREAK ? \
2077 #> ^
2078 #> emitter.c:56:11: note: in expansion of macro 'PUT BREAK'
2079 #> (PUT_BREAK(emitter), \
2080
      #> ^~~~~~~
      #> emitter.c:2257:18: note: in expansion of macro 'WRITE BREAK'
2081
2082
      #> if (!WRITE_BREAK(emitter, string)) return 0;
2084
      #> emitter.c: In function 'yaml_emitter_write_folded_scalar':
2085
      #> emitter.c:28:6: warning: value computed is not used [-Wunused-value]
      #> && ((emitter->line_break == YAML_CR_BREAK ? \
2086
2087
      #> ^
2088 #> emitter.c:56:11: note: in expansion of macro 'PUT BREAK'
2089 #> (PUT_BREAK(emitter), \
2090
      #> ^~~~~~
2091
      #> emitter.c:2306:18: note: in expansion of macro 'WRITE_BREAK'
2092
      #> if (!WRITE_BREAK(emitter, string)) return 0;
2094 #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c implicit.c -o
      implicit.o
2095 #> implicit.re: In function 'find_implicit_tag':
2096
      #> implicit.re:12:31: warning: variable 'limit' set but not used [-Wunused-but-set-variable]
2097
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c loader.c -o
2098
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c parser.c -o
      #> parser.c: In function 'yaml_parser_parse_block_sequence_entry':
      #> parser.c:762:21: warning: variable 'dummy_mark' set but not used [-Wunused-but-set-variable]
      #> yaml_mark_t dummy_mark; /* Used to eliminate a compiler warning. */
2101
2102
      #> ^~~~~~~
2103  #> parser.c: In function 'yaml_parser_parse_block_mapping_key':
2104 #> parser.c:872:21: warning: variable 'dummy_mark' set but not used [-Wunused-but-set-variable]
2105  #> yaml_mark_t dummy_mark; /* Used to eliminate a compiler warning. */
2106
      #> ^~~~
2107
      #> parser.c: In function 'yaml_parser_parse_flow_sequence_entry':
2108
      #> parser.c:955:17: warning: variable 'dummy_mark' set but not used [-Wunused-but-set-variable]
2109 #> yaml_mark_t dummy_mark; /* Used to eliminate a compiler warning. */
2110 #> ^~~~~~~
      #> parser.c: In function 'yaml_parser_parse_flow_mapping_key':
2111
      #> parser.c:1107:17: warning: variable 'dummy_mark' set but not used [-Wunused-but-set-variable]
2113
      #> yaml_mark_t dummy_mark; /* Used to eliminate a compiler warning. */
      #> ^~~~~~~
2114
2115 #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c r-ext.c -o r-ext.o
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
2116
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c reader.c -o
      #> gcc -std=gnu99 -fsanitize=address.undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
2117
      DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c scanner.c -o
```

```
2118 #> scanner.c: In function 'yaml parser decrease flow level':
2119
           #> scanner.c:1189:23: warning: variable 'dummy_key' set but not used [-Wunused-but-set-variable]
2120 #> yaml_simple_key_t dummy_key; /* Used to eliminate a compiler warning. */
2122 #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -I. -
            DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c writer.c -o
2123
            #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -shared -L/usr/local/lib/R/lib -
            L/usr/local/lib -o yaml.so api.o dumper.o emitter.o implicit.o loader.o parser.o r-ext.o reader.o scanner.o writer.o
            -L/usr/local/lib/R/lib -lR
2124
            #> installing to /home/docker/R/yaml/libs
2125 #> ** R
2126  #> ** inst
           #> ** preparing package for lazy loading
2127
           #> ** help
2128
           #> *** installing help indices
2129
2130  #> ** building package indices
2131  #> ** testing if installed package can be loaded
2132
           #> * creating tarball
           #> packaged installation of 'yaml' as 'yaml_2.1.14_R_x86_64-pc-linux-gnu.tar.gz'
2133
2134  #> * DONE (yaml)
2135 #> * installing *source* package 'caTools' ...
2136  #> ** package 'caTools' successfully unpacked and MD5 sums checked
           #> ** libs
2137
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
            I/usr/local/lib/R/include -DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -c Gif2R.cpp -
            o Gif2R.o
            \verb| #> g++ -fsanitize=address, undefined, bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size, vptr -foo-omit-frame-pointer -foo-omit-frame-point
2139
            I/usr/local/lib/R/include -DNDEBUG -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -c
            GifTools.cpp -o GifTools.o
2140
           #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
            I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c runfunc.c -o runfunc.o
2141
            #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
            L/usr/local/lib/R/lib -L/usr/local/lib -o caTools.so Gif2R.o GifTools.o runfunc.o -L/usr/local/lib/R/lib -lR
2142
            #> installing to /home/docker/R/caTools/libs
           #> ** R
2143
            #> ** preparing package for lazy loading
2144
           #> ** help
2145
2146  #> *** installing help indices
2147  #> ** building package indices
          #> ** testing if installed package can be loaded
2148
           #> * creating tarball
2150 #> packaged installation of 'caTools' as 'caTools_1.17.1_R_x86_64-pc-linux-gnu.tar.gz'
2151  #> * DONE (caTools)
2152 #> * installing *source* package 'htmltools' ...
           #> ** package 'htmltools' successfully unpacked and MD5 sums checked
2153
            #> ** libs
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
2155
            I/usr/local/lib/R/include -DNDEBUG -I/usr/local/include -I"/home/docker/R/Rcpp/include" -fpic -pipe -Wall -pedantic
            -O2 -mtune=native -c RcppExports.cpp -o RcppExports.o
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
            I/usr/local/lib/R/include \ -DNDEBUG \ -I/usr/local/include \ -I''/home/docker/R/Rcpp/include'' \ -fpic \ -pipe \ -Wall \ -pedantic \ -pipe \ -wall \ -pipe \ -wall \ -pedantic \ -pipe \ -wall \ -pipe \ -wall \ -pedantic \ -pipe \ -wall \ -pedantic \ -pipe \ -wall \ -pedantic \ -pipe \ -wall \ -pipe \ -pipe \ -wall \ -pipe 
            -O2 -mtune=native -c template.cpp -o template.o
            #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
2157
            L/usr/local/lib/R/lib -L/usr/local/lib -o htmltools.so RcppExports.o template.o -L/usr/local/lib/R/lib -lR
           #> installing to /home/docker/R/htmltools/libs
2158
2159
           #> ** R
2160  #> ** preparing package for lazy loading
           #> ** help
2161
           #> *** installing help indices
2162
2163  #> ** building package indices
2164  #> ** testing if installed package can be loaded
2165  #> * creating tarball
           #> packaged installation of 'htmltools' as 'htmltools_0.3.5_R_x86_64-pc-linux-gnu.tar.gz'
2166
2167
            #> * DONE (htmltools)
           #> * installing *source* package 'markdown' ...
2168
2169
           #> ** package 'markdown' successfully unpacked and MD5 sums checked
           #> ** libs
2170
           #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
2171
            I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c Rbase64.c -o Rbase64.o
2172 #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
            I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c Rinit.c -o Rinit.o
           #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
2173
            I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c Rmarkdown.c -o Rmarkdown.o
2174
           #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
            I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c autolink.c -o autolink.o
2175
           #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
            I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c buffer.c -o buffer.o
```

```
#> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
2176
         I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c houdini_href_e.c -o
         houdini_href_e.o
2177
         #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
         I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c houdini_html_e.c -o
         houdini html e.o
2178
         #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
         I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c html.c -o html.o
2179
         #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG
         I/usr/local/include -fpic -pipe -Wall -pedantic -02 -mtune=native -fsanitize=address -c html_smartypants.c -o
2180
         #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
         I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c markdown.c -o markdown.o
         #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG
2181
         I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -fsanitize=address -c stack.c -o stack.o
         2182
         L/usr/local/lib -o markdown.so Rbase64.o Rinit.o Rmarkdown.o autolink.o buffer.o houdini_href_e.o houdini_html_e.o
         html.o html_smartypants.o markdown.o stack.o -L/usr/local/lib/R/lib -lR
         #> installing to /home/docker/R/markdown/libs
         #> ** R
2184
2185
         #> ** inst
2186
         #> ** preparing package for lazy loading
         #> ** help
2187
2188  #> *** installing help indices
        #> ** building package indices
2189
         #> ** installing vignettes
2190
         2191
         #> * creating tarball
2192
2193 #> packaged installation of 'markdown' as 'markdown_0.7.7_R_x86_64-pc-linux-gnu.tar.gz'
2194
         #> * DONE (markdown)
2195
         #> * installing *source* package 'RcppArmadillo' ...
        #> ** package 'RcppArmadillo' successfully unpacked and MD5 sums checked
2196
2197 #> checking whether the C++ compiler works... yes
2198  #> checking for C++ compiler default output file name... a.out
2199 #> checking for suffix of executables...
2200
         #> checking whether we are cross compiling... no
2201
         #> checking for suffix of object files... o
2202 \#> checking whether we are using the GNU C++ compiler... yes
         #> checking whether g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-
         size, vptr accepts -g... yes
         #> checking how to run the C++ preprocessor... g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-
         pointer -fno-sanitize=object-size,vptr -E
         #> checking whether we are using the GNU C++ compiler... (cached) yes
2206
         #> checking whether g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-
         size, vptr accepts -g... (cached) yes
2207
         #> checking whether g++ version is sufficient... (6.1.1) yes
2208
         #> checking LAPACK_LIBS... fallback LAPACK from R 3.3.0 or later used
         #> configure: creating ./config.status
         #> config.status: creating inst/include/RcppArmadilloLapack.h
2210
         #> ** libs
2211
2212
         #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
         I/usr/local/lib/R/include -INDEBUG -I/usr/local/include -I"/home/docker/R/Rcpp/include" -I../inst/include -fpic -
         pipe -Wall -pedantic -O2 -mtune=native -c RcppArmadillo.cpp -o RcppArmadillo.o
2213
         #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
         I/usr/local/lib/R/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -I../inst/include -fpic -
         pipe -Wall -pedantic -O2 -mtune=native -c RcppExports.cpp -o RcppExports.o
         \verb| #> g++ -fsanitize= address, undefined, bounds-strict -fno-omit-frame-pointer -fno-sanitize= object-size, vptr -foo-omit-frame-pointer -foo-omit-frame-poin
2214
         I/usr/local/lib/R/include -DNDEBUG -I/usr/local/include -I"/home/docker/R/Rcpp/include" -I../inst/include -fpic -
         pipe -Wall -pedantic -O2 -mtune=native -c fastLm.cpp -o fastLm.o
2215
         #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
         L/usr/local/lib/R/lib -L/usr/local/lib -o RcppArmadillo.so RcppArmadillo.o RcppExports.o fastLm.o -
         L/usr/local/lib/R/lib -lRlapack -L/usr/local/lib/R/lib -lRblas -lgfortran -lm -lquadmath -L/usr/local/lib/R/lib -lR
2216
         #> installing to /home/docker/R/RcppArmadillo/libs
         #> ** R
2217
        #> ** inst
2218
         #> ** preparing package for lazy loading
2219
         #> ** help
2220
2221  #> *** installing help indices
2222  #> ** building package indices
2223  #> ** installing vignettes
2224
         #> ** testing if installed package can be loaded
2225
         #> * creating tarball
        #> packaged installation of 'RcppArmadillo' as 'RcppArmadillo_0.7.700.0.0_R_x86_64-pc-linux-gnu.tar.gz'
2226
        #> * DONE (RcppArmadillo)
2228
         #> * installing *source* package 'rprojroot' ...
2229
         #> ** package 'rprojroot' successfully unpacked and MD5 sums checked
         #> ** R
2230
         #> ** inst
2231
```

```
2232     #> ** preparing package for lazy loading 2233     #> ** help
2234  #> *** installing help indices
2235  #> ** building package indices
2236  #> ** installing vignettes
      #> ** testing if installed package can be loaded
2237
2238 #> * creating tarball
2239 #> packaged installation of 'rprojroot' as 'rprojroot_1.2_R_x86_64-pc-linux-gnu.tar.gz'
2240 #> * DONE (rprojroot)
2241 #> * installing *source* package 'stringr' ...
2242
      #> ** package 'stringr' successfully unpacked and MD5 sums checked
      #> ** R
2243
2244  #> ** data
2245  #> *** moving datasets to lazyload DB
      #> ** inst
2246
2247
      #> ** preparing package for lazy loading
2248
      #> ** help
      #> *** installing help indices
2249
2250  #> ** building package indices
2251  #> ** installing vignettes
      #> ** testing if installed package can be loaded
2252
2253
      #> * creating tarball
 \begin{tabular}{ll} 2254 & \#> packaged installation of `stringr' as `stringr_1.2.0_R_x86_64-pc-linux-gnu.tar.gz' \\ \end{tabular} 
2255  #> * DONE (stringr)
2256  #> * installing *source* package 'testthat' ...
      #> ** package 'testthat' successfully unpacked and MD5 sums checked
2257
      #> ** libs
2258
2259
      #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
       I../inst/include -DCOMPILING_TESTTHAT -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -
       fsanitize=address -c label.c -o label.o
2260
       #> gcc -std=gnu99 -fsanitize=address,undefined -fno-omit-frame-pointer -I/usr/local/lib/R/include -DNDEBUG -
       I../inst/include -DCOMPILING_TESTTHAT -I/usr/local/include -fpic -pipe -Wall -pedantic -O2 -mtune=native -
       fsanitize=address -c reassign.c -o reassign.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_TESTTHAT -I/usr/local/include -fpic -pipe -Wall -
       pedantic -O2 -mtune=native -c test-catch.cpp -o test-catch.o
2262
       #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_TESTTHAT -I/usr/local/include -fpic -pipe -Wall -
       pedantic -O2 -mtune=native -c test-example.cpp -o test-example.o
       #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_TESTTHAT -I/usr/local/include -fpic -pipe -Wall -
       pedantic -02 -mtune=native -c test-runner.cpp -o test-runner.o
2264
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
       L/usr/local/lib/R/lib -L/usr/local/lib -o testthat.so label.o reassign.o test-catch.o test-example.o test-runner.o -
       L/usr/local/lib/R/lib -lR
2265
       #> installing to /home/docker/R/testthat/libs
      #> ** R
2266
2267 #> ** inst
2268  #> ** preparing package for lazy loading
      #> ** help
2269
2270
      #> *** installing help indices
2271  #> ** building package indices
2272  #> ** testing if installed package can be loaded
2273  #> * creating tarball
2274  #> packaged installation of 'testthat' as 'testthat_1.0.2_R_x86_64-pc-linux-gnu.tar.gz'
      #> * DONE (testthat)
2276 #> * installing *source* package 'tibble' ...
2277  #> ** package 'tibble' successfully unpacked and MD5 sums checked
2278  #> ** libs
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I/usr/local/include -I"/home/docker/R/Rcpp/include" -fpic -pipe -Wall -pedantic
       -O2 -mtune=native -c RcppExports.cpp -o RcppExports.o
2280
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I/usr/local/include -I"/home/docker/R/Rcpp/include" -fpic -pipe -Wall -pedantic
       -O2 -mtune=native -c matrixToDataFrame.cpp -o matrixToDataFrame.o
       #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
2281
       L/usr/local/lib/R/lib -L/usr/local/lib -o tibble.so RcppExports.o matrixToDataFrame.o -L/usr/local/lib/R/lib -lR
2282
       #> installing to /home/docker/R/tibble/libs
2283
      #> ** R
      #> ** inst
2284
2285  #> ** preparing package for lazy loading
2286
      #> ** help
2287
      #> *** installing help indices
      #> ** building package indices
2288
      #> ** installing vignettes
2289
2290  #> ** testing if installed package can be loaded
2291  #> * creating tarball
      #> packaged installation of 'tibble' as 'tibble 1.2 R x86 64-pc-linux-gnu.tar.gz'
```

```
2293
                 #> * DONE (tibble)
2294
                 #> * installing *source* package 'dplyr' ...
                 #> ** package 'dplyr' successfully unpacked and MD5 sums checked
2295
                 #> ** libs
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL INT64_T -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL INT64_T -DBOOST_NO_INT64_T -DBOOST_NO
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c RcppExports.cpp -o RcppExports.o
2298
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INT64_T -DBOOST_NO_INT64_T
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c address.cpp -o address.o
                  #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c api.cpp -o api.o
2300
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c arrange.cpp -o arrange.o
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c between.cpp -o between.o
2302
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c bind.cpp -o bind.o
                 \verb| #> g++ -fsanitize= address, undefined, bounds-strict -fno-omit-frame-pointer -fno-sanitize= object-size, vptr -foo-omit-frame-pointer -foo-omit-frame-p
2303
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c combine_variables.cpp -o combine_variables.o
2304
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c distinct.cpp -o distinct.o
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
2305
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c dplyr.cpp -o dplyr.o
                  #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                 DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -02 -mtune=native -c filter.cpp -o filter.o
                  #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c group_indices.cpp -o group_indices.o
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c init.cpp -o init.o
2309
                  #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -DBOOST_NO_INT64_T -DBOOST_NO_IN
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c join.cpp -o join.o
                  #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST NO INTEGRAL INT
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -02 -mtune=native -c nth.cpp -o nth.o
2311
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c select.cpp -o select.o
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST\_NO\_LONG\_LONG\_-fpic\_-pipe\_-Wall\_-pedantic\_-O2\_-mtune=native\_-c\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_strings\_addresses.cpp\_-o\_
2313
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -02 -mtune=native -c summarise.cpp -o summarise.o
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST NO LONG LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c test.cpp -o test.o
2315
                 #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
                  I/usr/local/lib/R/include -DNDEBUG -I../inst/include -DCOMPILING_DPLYR -I/usr/local/include -
                  I"/home/docker/R/Rcpp/include" -I"/home/docker/R/BH/include" -DBOOST_NO_INT64_T -DBOOST_NO_INTEGRAL_INT64_T -
                  DBOOST_NO_LONG_LONG -fpic -pipe -Wall -pedantic -O2 -mtune=native -c window.cpp -o window.o
```

```
2316
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
      L/usr/local/lib/R/lib -L/usr/local/lib -o dplyr.so RcppExports.o address.o api.o arrange.o between.o bind.o
       combine_variables.o distinct.o dplyr.o filter.o group_indices.o init.o join.o nth.o select.o strings_addresses.o
       summarise.o test.o window.o -L/usr/local/lib/R/lib -lR
      #> installing to /home/docker/R/dplyr/libs
2317
2318 #> ** R
2319  #> ** data
2320  #> *** moving datasets to lazyload DB
2321  #> ** inst
2322
      #> ** preparing package for lazy loading
2323  #> ** help
2324  #> *** installing help indices
2325  #> ** building package indices
2326  #> ** installing vignettes
2327
      #> ** testing if installed package can be loaded
2328  #> * creating tarball
2329 #> packaged installation of 'dplyr' as 'dplyr_0.5.0_R_x86_64-pc-linux-gnu.tar.gz'
2330  #> * DONE (dplyr)
2331  #> * installing *source* package 'evaluate' ...
2332
      #> ** package 'evaluate' successfully unpacked and MD5 sums checked
2333 #> ** R
2334  #> ** preparing package for lazy loading
2335  #> ** help
2336  #> *** installing help indices
2337
      #> ** building package indices
2338 \; #> ** testing if installed package can be loaded
2339 #> * creating tarball
2340 #> packaged installation of 'evaluate' as 'evaluate_0.10_R_x86_64-pc-linux-gnu.tar.gz'
2341  #> * DONE (evaluate)
      #> * installing *source* package 'knitr' ...
2343 \#>** package 'knitr' successfully unpacked and MD5 sums checked
2344 #> ** R
2345 #> ** demo
2346  #> ** inst
2347
      #> ** preparing package for lazy loading
2348  #> ** help
2349  #> *** installing help indices
2350  #> ** building package indices
2351  #> ** installing vignettes
2352
      #> ** testing if installed package can be loaded
2353  #> * creating tarball
2354  #> packaged installation of 'knitr' as 'knitr_1.15.1_R_x86_64-pc-linux-gnu.tar.gz'
2355 #> * DONE (knitr)
2356  #> * installing *source* package 'rmarkdown' ...
2357
      #> ** package 'rmarkdown' successfully unpacked and MD5 sums checked
2358 #> ** R
2359 #> ** inst
2360  #> ** preparing package for lazy loading
2361 #> ** help
2362
      #> *** installing help indices
2363
      #> ** building package indices
2364 \# ** testing if installed package can be loaded
2365  #> * creating tarball
2366 #> packaged installation of 'rmarkdown' as 'rmarkdown_1.3_R_x86_64-pc-linux-gnu.tar.gz'
2367
      #> * DONE (rmarkdown)
2368  #> The downloaded source packages are in
2369 #> '/tmp/RtmpxQuJqV/downloaded_packages'
2370  #> Installing package into '/home/docker/R'
2371 #> (as 'lib' is unspecified)
2372
      #> * installing *source* package 'mrgsolve' ...
2373  #> ** libs
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
2374
      I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
       I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -02 -mtune=native
       -c RcppExports.cpp -o RcppExports.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
       I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
       I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
       -c dataobject.cpp -o dataobject.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
       I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -02 -mtune=native
       -c datarecord.cpp -o datarecord.o
      #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
       I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
       I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -02 -mtune=native
       -c devtran.cpp -o devtran.o
```

```
2378
         #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
          I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
          I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
          -c housemodel-mread-source.cpp -o housemodel-mread-source.o
          #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
          I/usr/local/lib/R/include \ -DNDEBUG \ -I../inst/include \ -I/usr/local/include \ -I''/home/docker/R/Rcpp/include'' -I/usr/local/include \ -I/usr/loca
          I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
          -c mrgsolve.cpp -o mrgsolve.o
          #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
          I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
          I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
          -c mrgsolve_init.cpp -o mrgsolve_init.o
2381
          #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
          I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
          I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
          -c odepack_dlsoda.cpp -o odepack_dlsoda.o
2382
         #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
          I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
          I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
          -c odeproblem.cpp -o odeproblem.o
         #> gfortran -fpic -pipe -02 -mtune=native -c opk_dlsoda_mrg.f -o opk_dlsoda_mrg.o
         #> gfortran -fpic -pipe -O2 -mtune=native -c opkda1_mrg.f -o opkda1_mrg.o
         #> gfortran -fpic -pipe -O2 -mtune=native -c opkda2_mrg.f -o opkda2_mrg.o
2385
          #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
          I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
          I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -02 -mtune=native
          -c quick.cpp -o quick.o
         #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared
          L/usr/local/lib/R/lib -L/usr/local/lib -o mrgsolve.so RcppExports.o dataobject.o datarecord.o devtran.o housemodel-
          mread-source.o mrgsolve.o mrgsolve_init.o odepack_dlsoda.o odeproblem.o opk_dlsoda_mrg.o opkda1_mrg.o opkda2_mrg.o
          quick.o -L/usr/local/lib/R/lib -lRlapack -L/usr/local/lib/R/lib -lRblas -lgfortran -lm -lquadmath -lgfortran -lm -
          lquadmath -L/usr/local/lib/R/lib -lR
2388
          #> installing to /home/docker/R/mrgsolve/libs
2389
          #> ** R
         #> ** data
2390
2391
          #> ** inst
2392
         #> ** preparing package for lazy loading
         #> Creating a generic function for 'as.list' from package 'base' in package 'mrgsolve'
2393
2394 #> Creating a generic function for 'as.data.frame' from package 'base' in package 'mrgsolve'
2395
         #> Creating a generic function for 'as.matrix' from package 'base' in package 'mrgsolve'
2396
          #> Creating a generic function for 'plot' from package 'graphics' in package 'mrgsolve'
         #> Creating a generic function for 'labels' from package 'base' in package 'mrgsolve'
2397
2398 #> Creating a generic function for 'nrow' from package 'base' in package 'mrgsolve'
         #> Creating a new generic function for 'rename' in package 'mrgsolve'
         #> Creating a generic function for 'tail' from package 'utils' in package 'mrgsolve'
2400
2401
          #> Creating a generic function for 'head' from package 'utils' in package 'mrgsolve'
         #> Creating a generic function for 'subset' from package 'base' in package 'mrgsolve'
2402
         #> Creating a generic function for 'summary' from package 'base' in package 'mrgsolve'
         #> Creating a generic function for 'update' from package 'stats' in package 'mrgsolve'
         #> ** help
2405
          #> *** installing help indices
2406
          #> ** building package indices
2407
         2408
         #> * creating tarball
         #> packaged installation of 'mrgsolve' as 'mrgsolve_0.8.5_R_x86_64-pc-linux-gnu.tar.gz'
2410
2411
         #> * DONE (mrgsolve)
2412
         #> >
2413 #> >
Running R CMD check
2415
          #> About to run xvfb-run san.sh mrgsolve_0.8.5.tar.gz
2416  #> * installing to library '/home/docker/R'
2417 #> * installing *source* package 'mrgsolve' ...
2418  #> ** libs
```

```
## About to run xyfb-run san.sh mrgsolve_0.8.5.tar.gz
## * installing to library '/home/docker/R'
## * installing to library '/home/docker/R'
## * installing *source* package 'mrgsolve' ...
## * * libs
## * * libs
## * * | ## * * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ## * | ##
```

```
2422
          #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
           I/usr/local/lib/R/include \ -DNDEBUG \ -I../inst/include \ -I/usr/local/include \ -I''/home/docker/R/Rcpp/include' \ -I''/home/docker/Rcpp/include' \ -I''/home/docker/Rc
           I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c devtran.cpp -o devtran.o
          #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
           I/usr/local/lib/R/include \ -DNDEBUG \ -I../inst/include \ -I/usr/local/include \ -I''/home/docker/R/Rcpp/include' \ -I''/home/docker/Rcpp/include' \ -I''/home/docker/Rc
            I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c housemodel-mread-source.cpp -o housemodel-mread-source.o
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr
           I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
           I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c mrgsolve.cpp -o mrgsolve.o
2425
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
           I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
            I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c mrgsolve_init.cpp -o mrgsolve_init.o
2426
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
           I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
            I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c odepack dlsoda.cpp -o odepack dlsoda.o
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
2427
           I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
           I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c odeproblem.cpp -o odeproblem.o
2428
           #> gfortran -fpic -pipe -O2 -mtune=native -c opk_dlsoda_mrg.f -o opk_dlsoda_mrg.o
2429
           #> gfortran -fpic -pipe -O2 -mtune=native -c opkda1_mrg.f -o opkda1_mrg.o
           #> gfortran -fpic -pipe -O2 -mtune=native -c opkda2_mrg.f -o opkda2_mrg.o
2430
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -
           I/usr/local/lib/R/include -DNDEBUG -I../inst/include -I/usr/local/include -I"/home/docker/R/Rcpp/include" -
           I"/home/docker/R/RcppArmadillo/include" -I"/home/docker/R/BH/include" -fpic -pipe -Wall -pedantic -O2 -mtune=native
            -c quick.cpp -o quick.o
2432
           #> g++ -fsanitize=address,undefined,bounds-strict -fno-omit-frame-pointer -fno-sanitize=object-size,vptr -shared -
           L/usr/local/lib/R/lib -L/usr/local/lib -o mrgsolve.so RcppExports.o dataobject.o datarecord.o devtran.o housemodel-
           mread-source.o mrgsolve.o mrgsolve_init.o odepack_dlsoda.o odeproblem.o opk_dlsoda_mrg.o opkda1_mrg.o opkda2_mrg.o
            quick.o -L/usr/local/lib/R/lib -lRlapack -L/usr/local/lib/R/lib -lRblas -lgfortran -lm -lquadmath -lgfortran -lm -
           lquadmath -L/usr/local/lib/R/lib -lR
          #> installing to /home/docker/R/mrgsolve/libs
2434 #> ** R
2435
          #> ** data
2436
           #> ** inst
           #> ** preparing package for lazy loading
2437
2438 #> Creating a generic function for 'as.list' from package 'base' in package 'mrgsolve'
2439
          #> Creating a generic function for 'as.data.frame' from package 'base' in package 'mrgsolve'
           #> Creating a generic function for 'as.matrix' from package 'base' in package 'mrgsolve'
2440
2441
           #> Creating a generic function for 'plot' from package 'graphics' in package 'mrgsolve'
2442 #> Creating a generic function for 'labels' from package 'base' in package 'mrgsolve'
2443 #> Creating a generic function for 'nrow' from package 'base' in package 'mrgsolve'
2444 #> Creating a new generic function for 'rename' in package 'mrgsolve'
          #> Creating a generic function for 'tail' from package 'utils' in package 'mrgsolve'
2445
           #> Creating a generic function for 'head' from package 'utils' in package 'mrgsolve'
2447
           #> Creating a generic function for 'subset' from package 'base' in package 'mrgsolve'
2448 #> Creating a generic function for 'summary' from package 'base' in package 'mrgsolve'
2449 #> Creating a generic function for 'update' from package 'stats' in package 'mrgsolve'
2450
          #> ** help
           #> *** installing help indices
2451
          #> ** building package indices
2452
2453  #> ** testing if installed package can be loaded
2454 #> * DONE (mrgsolve)
2455
          #> Running tests
           #> R Under development (unstable) (2016-09-18 r71304) -- "Unsuffered Consequences"
2456
2457
           #> Copyright (C) 2016 The R Foundation for Statistical Computing
2458 #> Platform: x86_64-pc-linux-gnu (64-bit)
2459 #> R is free software and comes with ABSOLUTELY NO WARRANTY.
           #> You are welcome to redistribute it under certain conditions.
2460
           #> Type 'license()' or 'licence()' for distribution details.
2461
2462
           #> Natural language support but running in an English locale
2463  #> R is a collaborative project with many contributors.
2464  #> Type 'contributors()' for more information and
2465
           #> 'citation()' on how to cite R or R packages in publications.
           #> Type 'demo()' for some demos, 'help()' for on-line help, or
2466
2467
          #> 'help.start()' for an HTML browser interface to help.
2468  #> Type 'q()' to quit R.
2469 #> > tools:::.runPackageTestsR()
2470
          #> Running 'testthat.R'
           #> R Under development (unstable) (2016-09-18 r71304) -- "Unsuffered Consequences"
\, 2472 \, \, #> Copyright (C) 2016 The R Foundation for Statistical Computing
2473 #> Platform: x86 64-pc-linux-gnu (64-bit)
2474  #> R is free software and comes with ABSOLUTELY NO WARRANTY.
```

```
2475 #> You are welcome to redistribute it under certain conditions.
2476 #> Type 'license()' or 'licence()' for distribution details.
2477  #> R is a collaborative project with many contributors.
2478  #> Type 'contributors()' for more information and
2479  #> 'citation()' on how to cite R or R packages in publications.
2480
     #> Type 'demo()' for some demos, 'help()' for on-line help, or
2481 #> 'help.start()' for an HTML browser interface to help.
2482  #> Type 'q()' to quit R.
2483 #> > # Copyright (C) 2013 - 2017 Metrum Research Group, LLC
2484 #> > #
2485
      #> > # This file is part of mrgsolve.
2486
      #> > #
2487  #> > # mrgsolve is free software: you can redistribute it and/or modify it
2488  #> > # under the terms of the GNU General Public License as published by
2489
      #> > # the Free Software Foundation, either version 2 of the License, or
2490
      #> > # (at your option) any later version.
2491
      #> > #
2492 \#>>\# mrgsolve is distributed in the hope that it will be useful, but
2493  #> > # WITHOUT ANY WARRANTY; without even the implied warranty of
2494  #> > # MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the
2495
      #> > # GNU General Public License for more details.
2496
      #> > #
2497
      #> > # You should have received a copy of the GNU General Public License
2498 #> > # along with mrgsolve. If not, see .
2499 #> >
2500
      #> > Sys.setenv("R_TESTS" = "")
2501 #> > library(testthat)
2502 #> > library(mrgsolve)
2503 #> >
2504 #> > test_check("mrgsolve", reporter="summary")
2505
     #> Attaching package: 'dplyr'
2506
      #> The following object is masked from 'package:testthat':
2507 #> matches
2508 #> The following objects are masked from 'package:stats':
2509  #> filter, lag
     #> The following objects are masked from 'package:base':
2510
2511 #> intersect, setdiff, setequal, union
2512  #> Lagged doses: .....
2513 #> test-annot: .....
2514 #> Dedicated bioavailability tests: ...
2515
     #> test-cache: ...
2516
     #> Testing carry_out: .....
2517 #> Testing carry_out of tran / PK dosing items: .......
2518  #> Testing data_set: ......
2519 #> Data set record sorting: ..
     #> Tests for dataobject - data: ..
2520
2521 #> .....Use dplyr generics on mrgsims objects: .....
2522  #> Testing infusion inputs:
2523  #> Test $ENV: .....
2524 #> ......CMTN block gives compartment numbers: ..
2525
     #> Fixed parameters: ...
2526
      #> Infusions: .....
2527 \# Infusions that end too close to observations.: ..
2528 #> Infusion with ss flag: .
2529  #> test-initials: ......
2530  #> Loading a model via mread:
2531  #> Running a 1 cmt PK model with initial value of 1000: .....
2532  #> Test knobs: .....
2533  #> Testing matlist operations: ......
2534  #> test-annot: .....
     #> test-modlib models: .....
2535
2536
      #> test-modspec: ......
2537  #> Testing new model specification file: ......
2538  #> valid_data_set tests: ......
2539 #> Testing NMXML functionality:
2540
      #> Testing obsonly and obsaug arguments: ......
2541 #> Test opts: ..
2542  #> Compare PKMODEL with equivalent ODEs.: ...
2543  #> Testing that plots can be generated from output objects:
2544 #> PLUGIN: Rcpp: ...
2545
     #> .Rename via carry.out #30: .....
2546
      #> test-request: ......
2547  #> Testing various request settings: ......
2548 #> R RNG respected via set.seed(): ....
2549 #> .....test-update: ......
2550
      #> Updates: general and simulation times: ....
2551
      #> Test updates: parameters and initials: .....
```

```
2552  #> Test updates: solver settings: ......
2553  #> Test updates: events: ...
2554  #> Testing parameter updates via data:
2555  #> Testing parameter updates via idata: ..
\, 2556 \, #> Events-based sim same results as data set-based sim: .
2557
      #> Time-varying data items passed in via data set: .
2558 #> util functions: ....
2559  #> Test utils: .....
2560  #> Set F via F_CMT: .....
2561  #> Set ALAG via ALAG_CMT: ......
2562
      2563
      #> >
2564 #>>
2565  #> > proc.time()
2566  #> user system elapsed
2567
      #> 30.048 16.060 47.769
2568 #> Running examples
2569 #> > tools:::.createExdotR('mrgsolve', system.file(package = 'mrgsolve'))
2570 #> Extracting from parsed Rd's ......
2571 #> >
2572 #> >
2573
      #> Model: housemodel.cpp
2574 #> Dim: 482 x 4
2575  #> Time: 0 to 120
2576 #> ID: 1
2577
      #> ID time RESP CP
2578 #> [1,] 1 0.00 50.00 0.00
2579 #> [2,] 1 0.00 50.00 0.00
2580 #> [3,] 1 0.25 42.29 12.87
2581  #> [4,] 1 0.50 32.69 22.25
2582  #> [5,] 1 0.75 25.29 29.04
2583  #> [6,] 1 1.00 20.05 33.91
2584  #> [7,] 1 1.25 16.45 37.37
2585  #> [8,] 1 1.50 14.01 39.78
2586 #> [[1]]
2587 #> [,1] [,2]
2588 #> [1,] 1 11
2589 #> [2,] 11 3
2590 #> [[2]]
2591 #> [,1] [,2]
2592 #> [1,] 2 22
2593 #> [2,] 22 4
2594 #> [[1]]
2595 #> [,1]
2596 #> [1,] 1
2597 #> [[2]]
2598 #> [,1]
2599 #> [1,] 1
2600 #> [[1]]
2601 #> [,1] [,2] [,3]
2602 #> [1,] 1 0 0
2603 #> [2,] 0 11 0
2604 #> [3,] 0 0 3
2605  #> ID time cmt evid amt ii addl
2606  #> 1 1 0 1 1 100 0 0
2607
      #> 2 1 0 1 1 200 0 0
2608 #> 2 1 0 1 1 200 0 0
2609 #> 4 2 0 1 1 200 0 0
2610  #> 5 3 0 1 1 100 0 0
2611  #> 6 3 0 1 1 200 0 0
2613
      #> 8 5 24 1 1 300 0 0
2614  #> 9 6 0 1 1 1000 8 10
2615  #> 10 7 0 1 1 1000 8 10
2616  #> 11 8 0 1 1 1000 8 10
2617
      #> ID time cmt evid amt
2618 #> 1 1 0 1 1 100
2619  #> 2 2 0 1 1 200
2620 #> 3 3 0 1 1 300
2621  #> # A tibble: 4 × 5
2622  #> ID end delta add GRP
2623  #>
2624  #> 1 1 24 6 1
2625  #> 2 2 48 6 0
2626  #> 3 3 72 6 1
2627
      #> 4 4 96 6 0
2628
      #> $GRP_1
```

```
2629  #> start: 0 end: 48 delta: 6 offset: 0 min: 0 max: 111
2630 #> $GRP_0
2631  #> start: 0 end: 24 delta: 6 offset: 0 min: 0 max: 135
2632  #> attr(,"descol")
2633 #> [1] "GRP"
2634  #> $GRP_1
2635  #> [1] 0 6 12 18 24 30 36 42 48 111
2636 #> $GRP 0
2637  #> [1] 0 6 12 18 24 122 124 135
2638 #> $ID_1
2639  #> [1] 0 6 12 18 24 122 124 135
2640  #> $ID_2
2641  #> [1] 0 6 12 18 24 30 36 42 48 111
2642 #> $ID 3
2643  #> [1] 0 6 12 18 24 30 36 42 48 54 60 66 72 99
2644
      #> $ID 4
2645  #> [1] 0 6 12 18 24 30 36 42 48 54 60 66 72 78 84 88 90 96
2646  #> time cmt amt evid rate ii addl ID arm
2647  #> 1 0 1 100 1 0 0 0 1 2
2648  #> 2 0 1 300 1 100 12 10 2 1
2649
      #> 3 0 1 100 1 0 0 0 3 2
2650  #> 4 0 1 300 1 100 12 10 4 1
2651  #> 5 0 1 100 1 0 0 0 5 2
2652  #> 6 0 1 300 1 100 12 10 6 1
2653 #> 7 0 1 100 1 0 0 0 7 2
2654
      #> 8 0 1 300 1 100 12 10 8 1
2655 #> 9 0 1 100 1 0 0 0 9 2
2656  #> 10 0 1 300 1 100 12 10 10 1
2657  #> Model file: housemodel.cpp
2658 #> $PARAM
2659  #> @annotated
2660  #> CL : 1 : Clearance (L/hr)
2661  #> VC : 20 : Volume of distribution (L)
2662 #> KA : 1.2 : Absorption rate constant (1/hr)
2663 #> F1 : 1.0 : Bioavailability fraction (.)
2664  #> WT : 70 : Weight (kg)
2665  #> SEX : 0 : Covariate female sex
2667  #> WTVC : 1.00 : Exponent WT on VC
2668 #> SEXCL: 0.7 : Prop cov effect on CL
2669 #> SEXVC: 0.85 : Prop cov effect on VC
2670
     #> KIN : 100 : Resp prod rate constant (1/hr)
2671  #> KOUT : 2 : Resp elim rate constant (1/hr)
2672  #> IC50 : 10 : Conc giving 50% max resp (ng/ml)
2673 #> $MAIN
2674  #> F_GUT = F1;
2675  #> double CLi = exp(log(CL) + WTCL*log(WT/70) + log(SEXCL)*SEX + ECL);
2677 #> double KAi = exp(log(KA) + EKA);
2678 #> double KOUTi = exp(log(KOUT) + EKOUT);
2679  #> RESP_0 = KIN/KOUTi;
2680 #> $ODE
2681 #> dxdt_GUT = -KAi*GUT;
2682 #> dxdt CENT = KAi*GUT - (CLi/VCi)*CENT;
2683 #> dxdt_RESP = KIN*(1-INH) - KOUTi*RESP;
2684 #> $TABLE
2685 #> double DV = CP*exp(EXPO);
2686  #> Model file: housemodel.cpp
2687 #> $PARAM
2688 #> @annotated
2689 #> CL : 1 : Clearance (L/hr)
2690
      #> VC : 20 : Volume of distribution (L)
2691  #> KA : 1.2 : Absorption rate constant (1/hr)
2692 #> F1 : 1.0 : Bioavailability fraction (.)
2693 #> WT : 70 : Weight (kg)
2694  #> SEX : 0 : Covariate female sex
2695  #> WTCL : 0.75 : Exponent WT on CL
2697 #> SEXCL: 0.7 : Prop cov effect on CL
2698 #> SEXVC: 0.85 : Prop cov effect on VC
2700
      #> KOUT : 2 : Resp elim rate constant (1/hr)
2701  #> IC50 : 10 : Conc giving 50% max resp (ng/ml)
2702 #> $TABLE
2703 #> double DV = CP*exp(EXPO);
2704
     #> [,1] [,2] [,3]
2705
      #> [1,] 0.1 0.0 0.0
```

```
2706 #> [2,] 0.0 0.2 0.0
2707
      #> [3,] 0.0 0.0 0.3
2708 #> [,1] [,2]
2709 #> [1,] 0.50 0.01
2710 #> [2,] 0.01 0.20
2711
      #> [,1] [,2]
2712
      #> [1,] 0.5000000 0.2751182
2713  #> [2,] 0.2751182 0.2000000
2714 #> [1] 2
2715  #> [1] "A" "B" "C"
2716
      #> [1] "A" "B" "C"
      #> [1] "A" "B" "C"
2717
2718  #> Model: housemodel.cpp
2719 #> Dim: 2410 x 7
2720  #> Time: 0 to 120
2721
      #> ID: 5
2722
      #> ID time GUT CENT RESP DV CP
2723  #> [1,] 2 0.00 0.000 0.000 50.00 0.0000 0.0000
2724 #> [2,] 2 0.00 10.000 0.000 50.00 0.0000 0.0000
2725 #> [3,] 2 0.25 7.408 2.575 49.86 0.1287 0.1287
2726  #> [4,] 2 0.50 5.488 4.450 49.56 0.2225 0.2225
2727
      #> [5,] 2 0.75 4.066 5.808 49.23 0.2904 0.2904
2728  #> [6,] 2 1.00 3.012 6.783 48.93 0.3391 0.3391
2729 #> [7,] 2 1.25 2.231 7.474 48.67 0.3737 0.3737
2730 #> [8,] 2 1.50 1.653 7.956 48.46 0.3978 0.3978
2731
      #> ID amt cmt time addl ii rate evid
2732
      #> 1 1 1000 1 0 3 24 0 1
2733 #> 2 2 1000 2 0 0 0 20 1
2734  #> 3 3 1000 1 0 0 0 0 1
2735  #> 4 3 500 1 24 0 0 0 1
2736
      #> 5 3 500 1 48 0 0 0 1
2737
      #> 6 3 1000 1 72 0 0 0 1
2738  #> Model: housemodel.cpp
2739 #> Dim: 2414 x 7
2740 #> Time: 0 to 120
2741
      #> ID: 5
2742
      #> ID time GUT CENT RESP DV CP
2743  #> [1,] 1 0.00 0.0 0.0 50.00 0.00 0.00
2744 #> [2,] 1 0.00 1000.0 0.0 50.00 0.00 0.00
2745 #> [3,] 1 0.25 740.8 257.5 42.29 12.87 12.87
2746
      #> [4,] 1 0.50 548.8 445.0 32.69 22.25 22.25
2747
      #> [5,] 1 0.75 406.6 580.8 25.29 29.04 29.04
2748  #> [6,] 1 1.00 301.2 678.3 20.05 33.91 33.91
2749 #> [7,] 1 1.25 223.1 747.4 16.45 37.37 37.37
2750 #> [8,] 1 1.50 165.3 795.6 14.01 39.78 39.78
2751  #> Model: housemodel.cpp
2752  #> Dim: 2414 x 7
2753  #> Time: 0 to 120
2754 #> ID: 5
2755 #> ID time GUT CENT RESP DV CP
2756  #> [1,] 1 0.00 0.0 0.0 50.00 0.00 0.00
2757
      #> [2,] 1 0.00 1000.0 0.0 50.00 0.00 0.00
2758  #> [3,] 1 0.25 740.8 257.5 42.29 12.87 12.87
2759 #> [4,] 1 0.50 548.8 445.0 32.69 22.25 22.25
2760 #> [5,] 1 0.75 406.6 580.8 25.29 29.04 29.04
2761  #> [6,] 1 1.00 301.2 678.3 20.05 33.91 33.91
2762
      #> [7,] 1 1.25 223.1 747.4 16.45 37.37 37.37
2763  #> [8,] 1 1.50 165.3 795.6 14.01 39.78 39.78
2764 #> time cmt amt evid ii addl
2765  #> 1 0 1 100 1 168 3
2766 #> 2 48 1 100 1 168 3
2767
      #> 3 96 1 100 1 168 3
2768  #> time cmt amt evid ii addl
2769  #> 1 24 1 50 1 168 23
2770  #> 2 72 1 100 1 168 23
2771
      #> Events:
2772
      #> time cmt amt evid
2773  #> 1 0 1 1000 1
2774 #> Events:
2775  #> time cmt amt evid ii addl
      #> 1 0 1 1000 1 0 0
2776
2777
      #> 2 12 1 500 1 12 10
2778  #> Events:
2779
      #> ID time cmt amt evid
2780
      #> 1 1 0 1 100 1
2781
      #> 2 2 0 1 100 1
```

2782

#> 3 3 0 1 100 1

```
2783  #> 4 4 0 1 100 1
2784
      #> 5 5 0 1 100 1
2785 #> 6 6 0 1 100 1
2786  #> 7 7 0 1 100 1
2787
      #> 8 8 0 1 100 1
2788
      #> 9 9 0 1 100 1
2789
      #> 10 10 0 1 100 1
2790 #> Model: housemodel.cpp
2791  #> Dim: 132 x 3
2792  #> Time: 0 to 24.65
2793
      #> ID: 12
2794 #> ID time CP
2795 #> [1,] 1 0.00 0.00000
2796 #> [2,] 1 0.25 0.04552
2797 #> [3,] 1 0.57 0.08624
2798
      #> [4,] 1 1.12 0.12643
2799
      #> [5,] 1 2.02 0.15072
2800 #> [6,] 1 3.82 0.15121
2801 #> [7,] 1 5.10 0.14348
2802 #> [8,] 1 7.03 0.13101
2803  #> Model: housemo
2804  #> Dim: 4814 x 3
      #> Model: housemodel.cpp
2805 #> Time: 0 to 240
2806 #> ID: 5
2807  #> ID time CP
2808
      #> [1,] 1 0.00 0.00
2809 #> [2,] 1 0.00 0.00
2810 #> [3,] 1 0.25 12.87
2811 #> [4,] 1 0.50 22.25
2812  #> [5,] 1 0.75 29.04
2813  #> [6,] 1 1.00 33.91
2814  #> [7,] 1 1.25 37.37
2815 #> [8,] 1 1.50 39.78
2816  #> Loading required package: dplyr
2817 #> Attaching package: 'dplyr'
2818  #> The following objects are masked from 'package:stats':
2819  #> filter, lag
2820  #> The following objects are masked from 'package:base':
2821 #> intersect, setdiff, setequal, union
2822  #> Joining, by = "ID"
2823  #> ID amt cmt time addl ii rate e
2824  #> 1 1 1000 1 0 3 24 0 1 1.252153
      #> ID amt cmt time addl ii rate evid CL
2825  #> 2 2 1000 2 0 0 0 20 1 1.313282
2826  #> 3 3 1000 1 0 0 0 0 1 1.991284
2827  #> 4 3 500 1 24 0 0 0 1 1.991284
2828
      #> 5 3 500 1 48 0 0 0 1 1.991284
2829
      #> 6 3 1000 1 72 0 0 0 1 1.991284
2830  #> 7 4 2000 2 0 2 48 100 1 2.117796
2831  #> 8 5 1000 1 0 0 0 0 1 1.475523
2832  #> 9 5 5000 1 24 0 0 60 1 1.475523
2833
      #> Model: housemodel.cpp
2834
      #> Dim: 4814 x 4
2835  #> Time: 0 to 240
2836 #> ID: 5
2837  #> ID time CL CP
2838  #> [1,] 1 0.00 1.252 0.00
2839
      #> [2,] 1 0.00 1.252 0.00
2840  #> [3,] 1 0.25 1.252 12.85
2841 #> [4,] 1 0.50 1.252 22.18
2842  #> [5,] 1 0.75 1.252 28.89
2843  #> [6,] 1 1.00 1.252 33.66
2844
      #> [7,] 1 1.25 1.252 37.01
2845  #> [8,] 1 1.50 1.252 39.30
2846 #> detaching 'package:dplyr'
2847 #> Model file: housemodel.cpp
2848
      #> $PROB
2849
2850  #> # `mrgsolve` housemodel
2851 #>
2852  #> This model is compiled with `mrgsolve`.
2853 #>
2854
      #> - Author: Metrum Research Group, LLC
2855  #> - Description: Generic indirect response PK/PD model
2856
      #> - Covariates: Weight, female sex
2857
      #> - Random effects: CL, VC, KA, KOUT
2858
      #> - Error model: exponential
2859
```

```
2860
      #>
2861
2862 #> $PLUGIN base
2864 #> $PARAM @annotated
     #> CL : 1 : Clearance (L/hr)
2865
2866  #> VC : 20 : Volume of distribution (L)
2867  #> KA : 1.2 : Absorption rate constant (1/hr)
2868  #> F1 : 1.0 : Bioavailability fraction (.)
2869  #> WT : 70 : Weight (kg)
2870
     #> SEX : 0 : Covariate female sex
2872  #> WTVC : 1.00 : Exponent WT on VC
2873 #> SEXCL: 0.7 : Prop cov effect on CL
2874  #> SEXVC: 0.85 : Prop cov effect on VC
2875
     #> KIN : 100 : Resp prod rate constant (1/hr)
2876  #> KOUT : 2 : Resp elim rate constant (1/hr)
2878 #>
2879 #> $CMT @annotated
2880
      #> GUT : Dosing compartment (mg)
2881  #> CENT : Central compartment (mg)
2882  #> RESP : Response (unitless)
2883 #>
2884 #> $OMEGA @labels ECL EVC EKA EKOUT
2885
      #> 0 0 0 0
2886
      #>
2887
      #> $SIGMA @labels EXPO
2888 #> 0
2889
      #>
2890
      #> $SET end=120, delta=0.25
2891 #>
2892 #>
2893 #> $GLOBAL
2894 #> #define CP (CENT/VCi)
2895
      #> #define INH (CP/(IC50+CP))
2896
2897  #> typedef double localdouble;
2898 #>
2899 #> $MAIN
2900
      #> F GUT = F1;
2901
2902 #> double CLi = exp(log(CL) + WTCL*log(WT/70) + log(SEXCL)*SEX + ECL);
2903 #> double VCi = exp(log(VC) + WTVC*log(WT/70) + log(SEXVC)*SEX + EVC);
2904  #> double KAi = exp(log(KA) + EKA);
2905
     #> double KOUTi = exp(log(KOUT) + EKOUT);
2906
      #>
2907  #> RESP_0 = KIN/KOUTi;
2908 #>
2909 #> $ODE
2910
     #> dxdt_GUT = -KAi*GUT;
2911
      #> dxdt_CENT = KAi*GUT - (CLi/VCi)*CENT;
2912
      #> dxdt_RESP = KIN*(1-INH) - KOUTi*RESP;
2913 #>
2914 #> $TABLE
2915  #> double DV = CP*exp(EXPO);
2916
2917 #> $CAPTURE @annotated
2918  #> DV: Dependent variable (ng/ml)
2919 #> CP: Plasma concentration (ng/ml)
2920
     #>
2921
      #> ID CL VC KA KOUT IC50 FOO
2922  #> 1 1 1.050 47.80 0.8390 2.450 1.280 4
2923  #> 2 2 0.730 30.10 0.0684 2.510 1.840 6
2924  #> 3 3 2.820 23.80 0.1180 3.880 2.480 5
2925
     #> 4 4 0.552 26.30 0.4950 1.180 0.977 2
2926
     #> 5 5 0.483 4.36 0.1220 2.350 0.483 10
2927  #> 6 6 3.620 39.80 0.1260 1.890 4.240 1
2928  #> 7 7 0.395 12.10 0.0317 1.250 0.802 8
2929  #> 8 8 1.440 31.20 0.0931 4.030 1.310 7
2930
      #> 9 9 2.570 18.20 0.0570 0.862 1.950 3
2931
      #> 10 10 2.000 6.51 0.1540 3.220 0.699 9
2932 #> Model: housemodel.cpp
2933 #> Dim: 4810 x 7
2934  #> Time: 0 to 120
2935
      #> ID: 10
2936
      #> ID time GUT CENT RESP DV CP
```

```
2937 #> [1,] 1 0.00 0 0 40.82 0 0
2938 #> [2,] 1 0.25 0 0 40.82 0 0
2939 #> [3,] 1 0.50 0 0 40.82 0 0
2940  #> [4,] 1 0.75 0 0 40.82 0 0
2941  #> [5,] 1 1.00 0 0 40.82 0 0
2942  #> [6,] 1 1.25 0 0 40.82 0 0
2943  #> [7,] 1 1.50 0 0 40.82 0 0
2944  #> [8,] 1 1.75 0 0 40.82 0 0
2945 #> Model: housemodel.cpp
2946 #> Dim: 4810 x 7
2947
      #> Time: 0 to 120
2948 #> ID: 10
2949 #> ID time GUT CENT RESP DV CP
2950 #> [1,] 1 0.00 0 0 40.82 0 0
2951 #> [2,] 1 0.25 0 0 40.82 0 0
2952
      #> [3,] 1 0.50 0 0 40.82 0 0
2953 #> [4,] 1 0.75 0 0 40.82 0 0
2954  #> [5,] 1 1.00 0 0 40.82 0 0
2955 #> [6,] 1 1.25 0 0 40.82 0 0
2956  #> [7,] 1 1.50 0 0 40.82 0 0
2957
      #> [8,] 1 1.75 0 0 40.82 0 0
2958 #> Model initial conditions (N=3):
2959  #> name value . name value
2960 #> CENT (2) 0 | RESP (3) 50
2961 #> GUT (1) 0 | . . . .
2962  #> Model initial conditions
2963  #> name value . name value
      #> Model initial conditions (N=3):
2964 #> CENT (2) 0 | . ... .
2965  #> [1] "cmt_list"
2966  #> attr(,"package")
2967
      #> [1] "mrgsolve"
2968 #> [1] 0
2969 #> $GUT
2970 #> [1] 0
2971 #> $CENT
2972
      #> [1] 0
2973
      #> $RESP
2974 #> [1] 50
2975 #> GUT CENT RESP
2976 #> 1 0 0 50
2977
      #> Model: housemodel
2978  #> Batch (head):
2979 #> ID CL
2980 #> 1 1 1
2981 #> 2 2 2
2982
      #> 3 3 3
2983 #> [ CL ]
2984 #> Head:
2985  #> ID time GUT CENT RESP DV CP CL
2986  #> 1 1 0.00 1000.0000 0.0000 50.00000 0.00000 0.00000 1
2987
      #> 2 1 0.25 740.8182 257.4883 42.29342 12.87441 12.87441 1
2988
      #> 3 1 0.50 548.8116 445.0417 32.69422 22.25208 22.25208 1
      #> 4 1 0.75 406.5697 580.8258 25.29397 29.04129 29.04129 1
2989
2990  #> 5 1 1.00 301.1942 678.2976 20.05159 33.91488 33.91488 1
2991 #> [ CL ]Dropping knobs: VC
2992
2993
      #> Model: housemodel
      #> Batch (head):
2994 #> ID CL
2995 #> 1 1 1
2996 #> 2 2 2
2997
      #> 3 3 3
2998
      #> [ CL ]
2999 #> Head:
3000 #> ID time GUT CENT RESP DV CP CL
3001 #> 1 1 0.00 0 0 50 0 0 1
3002
      #> 2 1 0.25 0 0 50 0 0 1
3003
      #> 3 1 0.50 0 0 50 0 0 1
3004 #> 4 1 0.75 0 0 50 0 0 1
3005  #> 5 1 1.00 0 0 50 0 0 1
3006 #> [ CL ]Model: housemodel
3007
      #> Batch (head):
3008
      #> ID CL
3009 #> 1 1 1
3010
      #> 2 2 2
3011 #> 3 3 3
3012
      #> [ CL ]
3013
```

```
3014
      #> ID time GUT CENT RESP DV CP CL
3015
      #> 1 1 0.00 0 0 50 0 0 1
      #> 2 1 0.25 0 0 50 0 0 1
3016
      #> 3 1 0.50 0 0 50 0 0 1
3018 #> 4 1 0.75 0 0 50 0 0 1
3019
      #> 5 1 1.00 0 0 50 0 0 1
3020
      #> [ CL ] [,1] [,2] [,3]
3021 #> [1,] 1 0.0 0
3022 #> [2,] 0 2.2 0
3023 #> [3,] 0 0.0 333
3024 #> [,1] [,2]
3025
      #> [1,] 1.0 1.1
3026 #> [2,] 1.1 2.2
      #> [,1] [,2] [,3] [,4]
3027
3028
      #> [1,] 0 0 0 0
3029
      #> [2,] 0 0 0 0
3030
      #> [3,] 0 0 0 0
3031 #> [4,] 0 0 0 0
3032 #> [,1] [,2]
3033  #> [1,] 1.100000 1.022052
3034 #> [2,] 1.022052 2.200000
3035
      #> [,1] [,2]
3036 #> [1,] 1.000 0.657
3037 #> [2,] 0.657 1.000
3038  #> Model: housemodel.cpp
3039
      #> Dim: 90 x 7
3040
      #> Time: 0 to 22
3041 #> ID: 1
3042  #> ID time GUT CENT RESP DV CP
3043  #> [1,] 1 0.00 0.0 0.0 50.00 0.00 0.00
3044
      #> [2,] 1 0.00 1000.0 0.0 50.00 0.00 0.00
      #> [3,] 1 0.25 740.8 257.5 42.29 12.87 12.87
3045
3046 #> [4,] 1 0.50 548.8 445.0 32.69 22.25 22.25
3047 #> [5,] 1 0.75 406.6 580.8 25.29 29.04 29.04
3048 #> [6,] 1 1.00 301.2 678.3 20.05 33.91 33.91
3049
      #> [7,] 1 1.25 223.1 747.4 16.45 37.37 37.37
3050
      #> [8,] 1 1.50 165.3 795.6 14.01 39.78 39.78
3051  #> Model: housemodel.cpp
3052  #> Dim: 132 x 7
3053 #> Time: 0 to 24.65
3054
      #> ID: 12
3055
      #> ID time GUT CENT RESP DV CP
      #> [1,] 1 0.00 4.020000 0.000 50.00 0.00000 0.00000
3056
      #> [2,] 1 0.25 2.978089 1.035 49.95 0.04552 0.04552
3058 #> [3,] 1 0.57 2.028470 1.961 49.81 0.08624 0.08624
3059
      #> [4,] 1 1.12 1.048417 2.875 49.57 0.12643 0.12643
3060
      #> [5,] 1 2.02 0.356038 3.428 49.33 0.15072 0.15072
3061  #> [6,] 1 3.82 0.041060 3.439 49.25 0.15121 0.15121
3062  #> [7,] 1 5.10 0.008838 3.263 49.28 0.14348 0.14348
3063 #> [8,] 1 7.03 0.000872 2.980 49.34 0.13101 0.13101
3064  #> Model: housemodel.cpp
3065
      #> Dim: 120 x 7
3066  #> Time: 0.25 to 24.65
3067
      #> ID: 12
3068
      #> ID time GUT CENT RESP DV CP
3069
      #> [1,] 1 0.25 2.978e+00 1.035 49.95 0.04552 0.04552
3070
      #> [2,] 1 0.57 2.028e+00 1.961 49.81 0.08624 0.08624
3071  #> [3,] 1 1.12 1.048e+00 2.875 49.57 0.12643 0.12643
3072  #> [4,] 1 2.02 3.560e-01 3.428 49.33 0.15072 0.15072
3073  #> [5,] 1 3.82 4.106e-02 3.439 49.25 0.15121 0.15121
3074
      #> [6,] 1 5.10 8.838e-03 3.263 49.28 0.14348 0.14348
      #> [7,] 1 7.03 8.720e-04 2.980 49.34 0.13101 0.13101
3075
      #> [8,] 1 9.05 7.723e-05 2.703 49.40 0.11884 0.11884
3076
3077 #> Model: housemodel.cpp
3078 #> Dim: 5904 x 8
3079
      #> Time: 0 to 120
      #> ID: 12
3080
3081
      #> ID time a.u.g GUT CENT RESP DV CP
3082 #> [1,] 1 0.00 1 0.000 0.000 50.00 0.00000 0.00000
3083  #> [2,] 1 0.00 0 4.020 0.000 50.00 0.00000 0.00000
3084
      #> [3,] 1 0.25 1 2.978 1.035 49.95 0.04552 0.04552
3085
      #> [4,] 1 0.25 0 2.978 1.035 49.95 0.04552 0.04552
3086
      #> [5,] 1 0.50 1 2.206 1.790 49.84 0.07870 0.07870
3087
      #> [6,] 1 0.57 0 2.028 1.961 49.81 0.08624 0.08624
3088
      #> [7,] 1 0.75 1 1.634 2.337 49.73 0.10274 0.10274
3089
      #> [8,] 1 1.00 1 1.211 2.729 49.61 0.12001 0.12001
3090
      #> Model: housemodel.cpp
```

```
3091 #> Dim: 482 x 5
3092
      #> Time: 0 to 120
3093 #> ID: 1
3094 #> ID time CENT DV CP
3095  #> [1,] 1 0.00 0.0 0.00 0.00
3096
      #> [2,] 1 0.00 0.0 0.00 0.00
3097
      #> [3,] 1 0.25 257.5 12.87 12.87
3098  #> [4,] 1 0.50 445.0 22.25 22.25
3099 #> [5,] 1 0.75 580.8 29.04 29.04
3100  #> [6,] 1 1.00 678.3 33.91 33.91
3101 #> [7,] 1 1.25 747.4 37.37 37.37
3102
      #> [8,] 1 1.50 795.6 39.78 39.78
3103 #> Model: housemodel.cpp
3104 #> Dim: 482 x 4
3105  #> Time: 0 to 120
3106
      #> ID: 1
3107 #> ID time RESP CP
3108  #> [1,] 1 0.00 50.00 0.00
3109 #> [2,] 1 0.00 50.00 0.00
3110 #> [3,] 1 0.25 42.29 12.87
3111  #> [4,] 1 0.50 32.69 22.25
3112  #> [5,] 1 0.75 25.29 29.04
3113  #> [6,] 1 1.00 20.05 33.91
3114 #> [7,] 1 1.25 16.45 37.37
3115  #> [8,] 1 1.50 14.01 39.78
3116 #> [1] "mrgsims"
3117 #> attr(,"package")
3118  #> [1] "mrgsolve"
3119  #> Model: housemodel.cpp
3120  #> Dim: 481 x 7
3121  #> Time: 0 to 120
3122  #> ID: 1
3123  #> ID time GUT CENT RESP DV CP
3124 #> [1,] 1 0.00 100.00 0.00 50.00 0.000 0.000
3125 #> [2,] 1 0.25 74.08 25.75 48.68 1.287 1.287
3126 #> [3,] 1 0.50 54.88 44.50 46.18 2.225 2.225
3127 #> [4,] 1 0.75 40.66 58.08 43.61 2.904 2.904
3128  #> [5,] 1 1.00 30.12 67.83 41.38 3.391 3.391
3129 #> [6,] 1 1.25 22.31 74.74 39.58 3.737 3.737
3130  #> [7,] 1 1.50 16.53 79.56 38.18 3.978 3.978
3132
      #> Model: housemodel
3133  #> ID time GUT CENT RESP DV CP
3134  #> 1 1 0.00 100.00000 0.00000 50.00000 0.000000 0.000000
3135  #> 2 1 0.25 74.08182 25.74883 48.68223 1.287441 1.287441
3136
      #> 3 1 0.50 54.88116 44.50417 46.18005 2.225208 2.225208
3137
      #> 4 1 0.75 40.65697 58.08258 43.61333 2.904129 2.904129
3138  #> 5 1 1.00 30.11942 67.82976 41.37943 3.391488 3.391488
3139  #> 6 1 1.25 22.31302 74.74256 39.57649 3.737128 3.737128
3140 #> Model: housemodel
3141
      #> ID time GUT CENT RESP DV CP
3142
      #> 476 1 118.75 9.202240e-44 0.2753340 49.92950 0.01376670 0.01376670
3143  #> 477  1 119.00 5.342789e-44 0.2719137 49.93038 0.01359569 0.01359569
3144  #> 478 1 119.25 2.453278e-44 0.2685360 49.93124 0.01342680 0.01342680
3145  #> 479  1 119.50  2.498865e-44  0.2652002  49.93209  0.01326001  0.01326001
3146
3147
     #> 480 1 119.75 1.869677e-44 0.2619058 49.93293 0.01309529 0.01309529
      #> 481 1 120.00 1.163038e-44 0.2586523 49.93377 0.01293262 0.01293262
3148  #> ------ mrgsolve model object (unix) ------
3149 #> Project: /home/docker/R/mrgsolve/project
3150 #> source: housemodel.cpp
3151  #> shared object: mrgsolve
3152
      #> compile date:
3154 #> > add:
3155  #> > tscale: 1
3156
      #> Compartments: GUT CENT RESP [3]
3157
      #> Parameters: CL VC KA F1 WT SEX
3159 #> > IC50 [13]
3160  #> Omega: 4x4
3161  #> Sigma: 1x1
3162
      #> Solver: atol: 1e-08 rtol: 1e-08
3163  #> > maxsteps: 2000 hmin: 0 hmax: 0
3164 #> [1] 481 7
3166
      #> [1] 0.00000000 1.28744129 2.22520840 2.90412917 3.39148807 3.73712819
      #> [7] 3.97797182 4.14136927 4.24757982 4.31160957 4.34457305 4.35470182
```

```
#> [13] 4.34809176 4.32925658 4.30153797 4.26740933 4.22870090 4.18676645
3169
      #> [19] 4.14260681 4.09696135 4.05037581 4.00325248 3.95588742 3.90849799
3170
      #> [25] 3.86124331 3.81423936 3.76757018 3.72129619 3.67546029 3.63009249
      #> [31] 3.58521323 3.54083588 3.49696861 3.45361577 3.41077886 3.36845734
3172
      #> [37] 3.32664914 3.28535111 3.24455927 3.20426913 3.16447573 3.12517389
3173
      #> [43] 3.08635822 3.04802320 3.01016327 2.97277280 2.93584619 2.89937783
3174
      #> [49] 2.86336215 2.82779361 2.79266673 2.75797606 2.72371622 2.68988189
3175
      #> [55] 2.65646780 2.62346875 2.59087958 2.55869522 2.52691065 2.49552090
      #> [61] 2.46452107 2.43390631 2.40367186 2.37381298 2.34432501 2.31520334
3177
      #> [67] 2.28644343 2.25804077 2.22999094 2.20228955 2.17493227 2.14791483
3178
      #> [73] 2.12123300 2.09488263 2.06885958 2.04315979 2.01777925 1.99271399
3179
       #> [79] 1.96796010 1.94351371 1.91937100 1.89552819 1.87198156 1.84872743
3180
      #> [85] 1.82576217 1.80308219 1.78068394 1.75856393 1.73671869 1.71514483
      #> [91] 1.69383896 1.67279775 1.65201792 1.63149623 1.61122946 1.59121444
3182
      #> [97] 1.57144806 1.55192722 1.53264887 1.51360999 1.49480763 1.47623883
3183
       #> [103] 1.45790070 1.43979037 1.42190501 1.40424182 1.38679805 1.36957097
3184
      #> [109] 1.35255788 1.33575613 1.31916310 1.30277620 1.28659285 1.27061054
3185
      #> [115] 1.25482676 1.23923904 1.22384497 1.20864213 1.19362814 1.17880065
      #> [121] 1.16415735 1.14969596 1.13541421 1.12130987 1.10738074 1.09362463
3187
      #> [127] 1.08003941 1.06662295 1.05337314 1.04028793 1.02736526 1.01460312
3188
      #> [133] 1.00199952 0.98955248 0.97726006 0.96512034 0.95313142 0.94129144
3189
      #> [139] 0.92959853 0.91805087 0.90664666 0.89538412 0.88426148 0.87327700
3190
      #> [145] 0.86242899 0.85171572 0.84113554 0.83068679 0.82036783 0.81017706
      #> [151] 0.80011287 0.79017371 0.78035801 0.77066425 0.76109090 0.75163648
3192
      #> [157] 0.74229948 0.73307851 0.72397206 0.71497874 0.70609713 0.69732585
3193
      #> [163] 0.68866353 0.68010882 0.67166037 0.66331687 0.65507702 0.64693952
3194
      #> [169] 0.63890311 0.63096653 0.62312854 0.61538791 0.60774343 0.60019392
3195
      #> [175] 0.59273819 0.58537508 0.57810343 0.57092212 0.56383000 0.55682600
      #> [181] 0.54990900 0.54307792 0.53633170 0.52966928 0.52308962 0.51659170
3197
      #> [187] 0.51017449 0.50383700 0.49757824 0.49139722 0.48529299 0.47926458
3198
      #> [193] 0.47331106 0.46743150 0.46162497 0.45589057 0.45022741 0.44463459
3199
       #> [199] 0.43911125 0.43365652 0.42826954 0.42294950 0.41769554 0.41250684
3200
      #> [205] 0.40738260 0.40232202 0.39732429 0.39238865 0.38751432 0.38270054
      #> [211] 0.37794656 0.37325163 0.36861503 0.36403602 0.35951389 0.35504794
3202
      #> [217] 0.35063746 0.34628177 0.34198019 0.33773204 0.33353666 0.32939341
3203
      #> [223] 0.32530162 0.32126065 0.31726989 0.31332870 0.30943647 0.30559259
3204
      #> [229] 0.30179645 0.29804748 0.29434507 0.29068866 0.28707767 0.28351153
3205
      #> [235] 0.27998969 0.27651161 0.27307672 0.26968451 0.26633444 0.26302598
      #> [241] 0.25975862 0.25653184 0.25334515 0.25019805 0.24709004 0.24402064
3207
      #> [247] 0.24098937 0.23799575 0.23503932 0.23211961 0.22923617 0.22638856
      #> [253] 0.22357631 0.22079900 0.21805619 0.21534746 0.21267237 0.21003051
3209
      #> [259] 0.20742147 0.20484484 0.20230021 0.19978720 0.19730540 0.19485443
3210
      #> [265] 0.19243391 0.19004346 0.18768270 0.18535127 0.18304880 0.18077493
      #> [271] 0.17852931 0.17631158 0.17412141 0.17195844 0.16982233 0.16771277
3212
      #> [277] 0.16562941 0.16357193 0.16154000 0.15953332 0.15755156 0.15559443
3213
      #> [283] 0.15366160 0.15175279 0.14986768 0.14800600 0.14616744 0.14435172
3214
      #> [289] 0.14255855 0.14078766 0.13903877 0.13731160 0.13560589 0.13392136
3215
      #> [295] 0.13225777 0.13061483 0.12899231 0.12738994 0.12580748 0.12424467
      #> [301] 0.12270128 0.12117706 0.11967177 0.11818519 0.11671707 0.11526718
3217
      #> [307] 0.11383531 0.11242123 0.11102471 0.10964554 0.10828350 0.10693838
3218
      #> [313] 0.10560997 0.10429806 0.10300245 0.10172293 0.10045931 0.09921138
3219
       #> [319] 0.09797896 0.09676185 0.09555985 0.09437279 0.09320047 0.09204271
      #> [325] 0.09089934 0.08977017 0.08865503 0.08755374 0.08646613 0.08539203
3220
      #> [331] 0.08433127 0.08328369 0.08224913 0.08122741 0.08021839 0.07922190
3222
      #> [337] 0.07823779 0.07726590 0.07630609 0.07535820 0.07442209 0.07349760
      #> [343] 0.07258460 0.07168294 0.07079248 0.06991308 0.06904460 0.06818692
3223
3224
      #> [349] 0.06733989 0.06650338 0.06567726 0.06486140 0.06405568 0.06325997
3225
      #> [355] 0.06247414 0.06169808 0.06093165 0.06017475 0.05942724 0.05868903
      #> [361] 0.05795998 0.05723999 0.05652894 0.05582673 0.05513324 0.05444836
3227
      #> [367] 0.05377199 0.05310403 0.05244436 0.05179288 0.05114950 0.05051411
3228
      #> [373] 0.04988661 0.04926691 0.04865491 0.04805051 0.04745362 0.04686414
3229
       #> [379] 0.04628198 0.04570706 0.04513927 0.04457855 0.04402478 0.04347790
3230
      #> [385] 0.04293781 0.04240442 0.04187767 0.04135746 0.04084370 0.04033634
      #> [391] 0.03983527 0.03934043 0.03885173 0.03836911 0.03789248 0.03742177
3232
      #> [397] 0.03695691 0.03649783 0.03604444 0.03559669 0.03515450 0.03471781
3233
      #> [403] 0.03428654 0.03386062 0.03344000 0.03302460 0.03261436 0.03220922
3234
      #> [409] 0.03180911 0.03141397 0.03102374 0.03063836 0.03025776 0.02988189
3235
      #> [415] 0.02951069 0.02914411 0.02878207 0.02842454 0.02807144 0.02772273
      #> [421] 0.02737835 0.02703825 0.02670238 0.02637068 0.02604310 0.02571958
3237
      #> [427] 0.02540009 0.02508456 0.02477296 0.02446522 0.02416131 0.02386118
3238
      #> [433] 0.02356477 0.02327204 0.02298295 0.02269745 0.02241550 0.02213705
3239
       #> [439] 0.02186206 0.02159048 0.02132228 0.02105741 0.02079583 0.02053750
3240
      #> [445] 0.02028238 0.02003043 0.01978161 0.01953588 0.01929320 0.01905354
       #> [451] 0.01881685 0.01858310 0.01835226 0.01812428 0.01789914 0.01767679
3242
       #> [457] 0.01745721 0.01724035 0.01702619 0.01681469 0.01660581 0.01639953
3243
       #> [463] 0.01619581 0.01599462 0.01579594 0.01559971 0.01540593 0.01521456
       #> [469] 0.01502556 0.01483891 0.01465458 0.01447253 0.01429275 0.01411521
```

```
3245  #> [475] 0.01393986 0.01376670 0.01359569 0.01342680 0.01326001 0.01309529
3246 #> [481] 0.01293262
3247  #> Events:
3248  #> time cmt amt addl ii evid
3249  #> 1 0 1 1000 5 24 1
3250
     #> ----- mrgsolve model object (unix) ------
3251 #> Project: /home/docker/R/mrgsolve/project
3252  #> source: housemodel.cpp
3253 #> shared object: mrgsolve
3254 #> compile date:
3255
     #> Time: start: 0 end: 120 delta: 0.1
3256 #> > add:
3257  #> > tscale: 1
3258  #> Compartments: GUT CENT RESP [3]
3259  #> Parameters: CL VC KA F1 WT SEX
3260
      #> > WTCL WTVC SEXCL SEXVC KIN KOUT
3261 #> > IC50 [13]
3262 #> Omega: 4x4
3263  #> Sigma: 1x1
3264  #> Solver: atol: 1e-08 rtol: 1e-08
3265
     #> > maxsteps: 2000 hmin: 0 hmax: 0
3266
     #> Model file: housemodel.cpp
3267 #> $PROB
3268 #>
3269 #> # `mrgsolve` housemodel
3270
     #>
3271  #> This model is compiled with `mrgsolve`.
3272 #>
3273 #> - Author: Metrum Research Group, LLC
3274 #> - Description: Generic indirect response PK/PD model
     #> - Covariates: Weight, female sex
3275
3276
      #> - Random effects: CL, VC, KA, KOUT
3277  #> - Error model: exponential
3278 #>
3279
     #>
3280
      #>
3281  #> $PLUGIN base
3282 #>
3283 #> $PARAM @annotated
3284 #> CL : 1 : Clearance (L/hr)
3285  #> VC : 20 : Volume of distribution (L)
3286
     #> KA : 1.2 : Absorption rate constant (1/hr)
3288  #> WT : 70 : Weight (kg)
3289  #> SEX : 0 : Covariate female sex
3292  #> SEXCL: 0.7 : Prop cov effect on CL
3293 #> SEXVC: 0.85 : Prop cov effect on VC
3294 #> KIN : 100 : Resp prod rate constant (1/hr)
3295  #> KOUT : 2 : Resp elim rate constant (1/hr)
3296
     #> IC50 : 10 : Conc giving 50% max resp (ng/ml)
3297 #>
3298 #> $CMT @annotated
3299 #> GUT : Dosing compartment (mg)
3300 #> CENT : Central compartment (mg)
3301 #> RESP : Response (unitless)
3302 #>
3303 #> $OMEGA @labels ECL EVC EKA EKOUT
3304 #> 0 0 0 0
3305
     #>
3306
     #> $SIGMA @labels EXPO
3307 #> 0
3308 #>
3309 #> $SET end=120, delta=0.25
3310
     #>
3311
3312 #> $GLOBAL
3313  #> #define CP (CENT/VCi)
3314  #> #define INH (CP/(IC50+CP))
3315
     #>
3316
      #> typedef double localdouble;
3317 #>
3318  #> $MAIN
3319
      #> F_GUT = F1;
3320
      #>
      #> double CLi = exp(log(CL) + WTCL*log(WT/70) + log(SEXCL)*SEX + ECL);
3321
```

```
3322
      #> double VCi = exp(log(VC) + WTVC*log(WT/70) + log(SEXVC)*SEX + EVC);
3323
      #> double KAi = exp(log(KA) + EKA);
3324
      #> double KOUTi = exp(log(KOUT) + EKOUT);
3325
3326  #> RESP_0 = KIN/KOUTi;
3327
      #>
3328
      #> $0DE
3329
      #> dxdt_GUT = -KAi*GUT;
3330
      #> dxdt_CENT = KAi*GUT - (CLi/VCi)*CENT;
3331 #> dxdt_RESP = KIN*(1-INH) - KOUTi*RESP;
3332
      #>
3333
      #> $TABLE
3334
      #> double DV = CP*exp(EXPO);
3335
3336
      #> $CAPTURE @annotated
3337
      #> DV: Dependent variable (ng/ml)
3338
      #> CP: Plasma concentration (ng/ml)
3339
3340  #> [1] 0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1
3341  #> [13] 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3
3342
      #> [25] 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5
3343
      #> [37] 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7
3344  #> [49] 4.8 4.9 5.0 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9
3345  #> [61] 6.0 6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 7.0 7.1
3346 #> [73] 7.2 7.3 7.4 7.5 7.6 7.7 7.8 7.9 8.0 8.1 8.2 8.3
3347
      #> [85] 8.4 8.5 8.6 8.7 8.8 8.9 9.0 9.1 9.2 9.3 9.4 9.5
3348
      #> [97] 9.6 9.7 9.8 9.9 10.0 10.1 10.2 10.3 10.4 10.5 10.6 10.7
3349  #> [109] 10.8 10.9 11.0 11.1 11.2 11.3 11.4 11.5 11.6 11.7 11.8 11.9
3350  #> [121] 12.0 12.1 12.2 12.3 12.4 12.5 12.6 12.7 12.8 12.9 13.0 13.1
3351  #> [133] 13.2 13.3 13.4 13.5 13.6 13.7 13.8 13.9 14.0 14.1 14.2 14.3
3352  #> [145] 14.4 14.5 14.6 14.7 14.8 14.9 15.0 15.1 15.2 15.3 15.4 15.5
3353
      #> [157] 15.6 15.7 15.8 15.9 16.0 16.1 16.2 16.3 16.4 16.5 16.6 16.7
3354  #> [169] 16.8 16.9 17.0 17.1 17.2 17.3 17.4 17.5 17.6 17.7 17.8 17.9
3355  #> [181] 18.0 18.1 18.2 18.3 18.4 18.5 18.6 18.7 18.8 18.9 19.0 19.1
3356  #> [193] 19.2 19.3 19.4 19.5 19.6 19.7 19.8 19.9 20.0 20.1 20.2 20.3
3357
      #> [205] 20.4 20.5 20.6 20.7 20.8 20.9 21.0 21.1 21.2 21.3 21.4 21.5
3358
      #> [217] 21.6 21.7 21.8 21.9 22.0 22.1 22.2 22.3 22.4 22.5 22.6 22.7
3359  #> [229] 22.8 22.9 23.0 23.1 23.2 23.3 23.4 23.5 23.6 23.7 23.8 23.9
3360  #> [241] 24.0 24.1 24.2 24.3 24.4 24.5 24.6 24.7 24.8 24.9 25.0 25.1
3361 #> [253] 25.2 25.3 25.4 25.5 25.6 25.7 25.8 25.9 26.0 26.1 26.2 26.3
3362
      #> [265] 26.4 26.5 26.6 26.7 26.8 26.9 27.0 27.1 27.2 27.3 27.4 27.5
3363
      #> [277] 27.6 27.7 27.8 27.9 28.0 28.1 28.2 28.3 28.4 28.5 28.6 28.7
3364 #> [289] 28.8 28.9 29.0 29.1 29.2 29.3 29.4 29.5 29.6 29.7 29.8 29.9
3365  #> [301] 30.0 30.1 30.2 30.3 30.4 30.5 30.6 30.7 30.8 30.9 31.0 31.1
3366 #> [313] 31.2 31.3 31.4 31.5 31.6 31.7 31.8 31.9 32.0 32.1 32.2 32.3
      #> [325] 32.4 32.5 32.6 32.7 32.8 32.9 33.0 33.1 33.2 33.3 33.4 33.5
3367
3368
      #> [337] 33.6 33.7 33.8 33.9 34.0 34.1 34.2 34.3 34.4 34.5 34.6 34.7
3369 #> [349] 34.8 34.9 35.0 35.1 35.2 35.3 35.4 35.5 35.6 35.7 35.8 35.9
3370  #> [361] 36.0 36.1 36.2 36.3 36.4 36.5 36.6 36.7 36.8 36.9 37.0 37.1
3371 #> [373] 37.2 37.3 37.4 37.5 37.6 37.7 37.8 37.9 38.0 38.1 38.2 38.3
3372  #> [385] 38.4 38.5 38.6 38.7 38.8 38.9 39.0 39.1 39.2 39.3 39.4 39.5
3373
      #> [397] 39.6 39.7 39.8 39.9 40.0 40.1 40.2 40.3 40.4 40.5 40.6 40.7
3374  #> [409] 40.8 40.9 41.0 41.1 41.2 41.3 41.4 41.5 41.6 41.7 41.8 41.9
3375 #> [421] 42.0 42.1 42.2 42.3 42.4 42.5 42.6 42.7 42.8 42.9 43.0 43.1
3376  #> [433] 43.2 43.3 43.4 43.5 43.6 43.7 43.8 43.9 44.0 44.1 44.2 44.3
      #> [445] 44.4 44.5 44.6 44.7 44.8 44.9 45.0 45.1 45.2 45.3 45.4 45.5
3377
3378
      #> [457] 45.6 45.7 45.8 45.9 46.0 46.1 46.2 46.3 46.4 46.5 46.6 46.7
3379  #> [469] 46.8 46.9 47.0 47.1 47.2 47.3 47.4 47.5 47.6 47.7 47.8 47.9
3380  #> [481] 48.0 48.1 48.2 48.3 48.4 48.5 48.6 48.7 48.8 48.9 49.0 49.1
3381  #> [493] 49.2 49.3 49.4 49.5 49.6 49.7 49.8 49.9 50.0 50.1 50.2 50.3
3382  #> [505] 50.4 50.5 50.6 50.7 50.8 50.9 51.0 51.1 51.2 51.3 51.4 51.5
      #> [517] 51.6 51.7 51.8 51.9 52.0 52.1 52.2 52.3 52.4 52.5 52.6 52.7
3383
3384  #> [529] 52.8 52.9 53.0 53.1 53.2 53.3 53.4 53.5 53.6 53.7 53.8 53.9
3385  #> [541] 54.0 54.1 54.2 54.3 54.4 54.5 54.6 54.7 54.8 54.9 55.0 55.1
3386 #> [553] 55.2 55.3 55.4 55.5 55.6 55.7 55.8 55.9 56.0 56.1 56.2 56.3
3387
      #> [565] 56.4 56.5 56.6 56.7 56.8 56.9 57.0 57.1 57.2 57.3 57.4 57.5
3388
      #> [577] 57.6 57.7 57.8 57.9 58.0 58.1 58.2 58.3 58.4 58.5 58.6 58.7
3389
      #> [589] 58.8 58.9 59.0 59.1 59.2 59.3 59.4 59.5 59.6 59.7 59.8 59.9
3390 #> [601] 60.0 60.1 60.2 60.3 60.4 60.5 60.6 60.7 60.8 60.9 61.0 61.1
3391 #> [613] 61.2 61.3 61.4 61.5 61.6 61.7 61.8 61.9 62.0 62.1 62.2 62.3
3392
      #> [625] 62.4 62.5 62.6 62.7 62.8 62.9 63.0 63.1 63.2 63.3 63.4 63.5
3393
      #> [637] 63.6 63.7 63.8 63.9 64.0 64.1 64.2 64.3 64.4 64.5 64.6 64.7
3394
      #> [649] 64.8 64.9 65.0 65.1 65.2 65.3 65.4 65.5 65.6 65.7 65.8 65.9
      #> [661] 66.0 66.1 66.2 66.3 66.4 66.5 66.6 66.7 66.8 66.9 67.0 67.1
3396
      #> [673] 67.2 67.3 67.4 67.5 67.6 67.7 67.8 67.9 68.0 68.1 68.2 68.3
3397
      #> [685] 68.4 68.5 68.6 68.7 68.8 68.9 69.0 69.1 69.2 69.3 69.4 69.5
      #> [697] 69.6 69.7 69.8 69.9 70.0 70.1 70.2 70.3 70.4 70.5 70.6 70.7
3398
```

```
3399
      #> [709] 70.8 70.9 71.0 71.1 71.2 71.3 71.4 71.5 71.6 71.7 71.8 71.9
3400
      #> [721] 72.0 72.1 72.2 72.3 72.4 72.5 72.6 72.7 72.8 72.9 73.0 73.1
      #> [733] 73.2 73.3 73.4 73.5 73.6 73.7 73.8 73.9 74.0 74.1 74.2 74.3
3401
      #> [745] 74.4 74.5 74.6 74.7 74.8 74.9 75.0 75.1 75.2 75.3 75.4 75.5
3403
      #> [757] 75.6 75.7 75.8 75.9 76.0 76.1 76.2 76.3 76.4 76.5 76.6 76.7
3404
      #> [769] 76.8 76.9 77.0 77.1 77.2 77.3 77.4 77.5 77.6 77.7 77.8 77.9
3405
      #> [781] 78.0 78.1 78.2 78.3 78.4 78.5 78.6 78.7 78.8 78.9 79.0 79.1
      #> [793] 79.2 79.3 79.4 79.5 79.6 79.7 79.8 79.9 80.0 80.1 80.2 80.3
3406
      #> [805] 80.4 80.5 80.6 80.7 80.8 80.9 81.0 81.1 81.2 81.3 81.4 81.5
3408  #> [817] 81.6 81.7 81.8 81.9 82.0 82.1 82.2 82.3 82.4 82.5 82.6 82.7
3409
      #> [829] 82.8 82.9 83.0 83.1 83.2 83.3 83.4 83.5 83.6 83.7 83.8 83.9
3410
      #> [841] 84.0 84.1 84.2 84.3 84.4 84.5 84.6 84.7 84.8 84.9 85.0 85.1
3411  #> [853] 85.2 85.3 85.4 85.5 85.6 85.7 85.8 85.9 86.0 86.1 86.2 86.3
      #> [865] 86.4 86.5 86.6 86.7 86.8 86.9 87.0 87.1 87.2 87.3 87.4 87.5
3413
      #> [877] 87.6 87.7 87.8 87.9 88.0 88.1 88.2 88.3 88.4 88.5 88.6 88.7
3414
      #> [889] 88.8 88.9 89.0 89.1 89.2 89.3 89.4 89.5 89.6 89.7 89.8 89.9
3415
      #> [901] 90.0 90.1 90.2 90.3 90.4 90.5 90.6 90.7 90.8 90.9 91.0 91.1
3416 #> [913] 91.2 91.3 91.4 91.5 91.6 91.7 91.8 91.9 92.0 92.1 92.2 92.3
3417  #> [925] 92.4 92.5 92.6 92.7 92.8 92.9 93.0 93.1 93.2 93.3 93.4 93.5
3418  #> [937] 93.6 93.7 93.8 93.9 94.0 94.1 94.2 94.3 94.4 94.5 94.6 94.7
3419
      #> [949] 94.8 94.9 95.0 95.1 95.2 95.3 95.4 95.5 95.6 95.7 95.8 95.9
3420
      #> [961] 96.0 96.1 96.2 96.3 96.4 96.5 96.6 96.7 96.8 96.9 97.0 97.1
3421  #> [973] 97.2 97.3 97.4 97.5 97.6 97.7 97.8 97.9 98.0 98.1 98.2 98.3
3422  #> [985] 98.4 98.5 98.6 98.7 98.8 98.9 99.0 99.1 99.2 99.3 99.4 99.5
3423  #> [997] 99.6 99.7 99.8 99.9 100.0 100.1 100.2 100.3 100.4 100.5 100.6 100.7
3424
      #> [1009] 100.8 100.9 101.0 101.1 101.2 101.3 101.4 101.5 101.6 101.7 101.8 101.9
3425
      #> [1021] 102.0 102.1 102.2 102.3 102.4 102.5 102.6 102.7 102.8 102.9 103.0 103.1
3426 #> [1033] 103.2 103.3 103.4 103.5 103.6 103.7 103.8 103.9 104.0 104.1 104.2 104.3
3427 #> [1045] 104.4 104.5 104.6 104.7 104.8 104.9 105.0 105.1 105.2 105.3 105.4 105.5
3428  #> [1057] 105.6 105.7 105.8 105.9 106.0 106.1 106.2 106.3 106.4 106.5 106.6 106.7
3429
      #> [1069] 106.8 106.9 107.0 107.1 107.2 107.3 107.4 107.5 107.6 107.7 107.8 107.9
3430
      #> [1081] 108.0 108.1 108.2 108.3 108.4 108.5 108.6 108.7 108.8 108.9 109.0 109.1
3431 #> [1093] 109.2 109.3 109.4 109.5 109.6 109.7 109.8 109.9 110.0 110.1 110.2 110.3
3432  #> [1105] 110.4 110.5 110.6 110.7 110.8 110.9 111.0 111.1 111.2 111.3 111.4 111.5
3433
      #> [1117] 111.6 111.7 111.8 111.9 112.0 112.1 112.2 112.3 112.4 112.5 112.6 112.7
3434
      #> [1129] 112.8 112.9 113.0 113.1 113.2 113.3 113.4 113.5 113.6 113.7 113.8 113.9
3435
      #> [1141] 114.0 114.1 114.2 114.3 114.4 114.5 114.6 114.7 114.8 114.9 115.0 115.1
3436 #> [1153] 115.2 115.3 115.4 115.5 115.6 115.7 115.8 115.9 116.0 116.1 116.2 116.3
3437  #> [1165] 116.4 116.5 116.6 116.7 116.8 116.9 117.0 117.1 117.2 117.3 117.4 117.5
3438  #> [1177] 117.6 117.7 117.8 117.9 118.0 118.1 118.2 118.3 118.4 118.5 118.6 118.7
3439
      #> [1189] 118.8 118.9 119.0 119.1 119.2 119.3 119.4 119.5 119.6 119.7 119.8 119.9
3440
      #> [1201] 120.0
3441  #> Model parameters (N=13):
      #> name value . name value
3443
      #> CL 0.5 | SEXCL 0.7
3444
      #> F1 1 | SEXVC 0.85
3445
      #> IC50 10 | VC 20
3446 #> KA 1.2 | WT 70
3447 #> KIN 100 | WTCL 0.75
3448 #> KOUT 2 | WTVC 1
3449
      #> SEX 0 | . .
3450
      #> Model initial conditions (N=3):
3451
      #> name value . name value
3452
      #> CENT (2) 0 | RESP (3) 50
3453
      #> GUT (1) 0 | . ... .
3454
      #> Model: housemodel.cpp
3455
      #> Dim: 1682 x 7
3456  #> Time: 0 to 168
3457 #> ID: 1
3458  #> ID time GUT CENT RESP DV CP
      #> [1,] 1 0.0 0.0 0.0 50.00 0.000 0.000
3459
3460
      #> [2,] 1 0.0 1000.0 0.0 50.00 0.000 0.000
3461
      #> [3,] 1 0.1 886.9 112.9 48.04 5.647 5.647
3462
      #> [4,] 1 0.2 786.6 212.8 44.32 10.641 10.641
3463 #> [5,] 1 0.3 697.7 301.1 40.24 15.056 15.056
3464
      #> [6,] 1 0.4 618.8 379.2 36.30 18.958 18.958
3465
      #> [7,] 1 0.5 548.8 448.1 32.67 22.405 22.405
3466
      #> [8,] 1 0.6 486.8 509.0 29.41 25.448 25.448
3467 #> Model: housemodel
3468  #> ID time GUT CENT RESP DV CP
      #> 1 1 0.0 0.0000 0.0000 50.00000 0.000000 0.000000
3469
3470
      #> 2 1 0.0 1000.0000 0.0000 50.00000 0.000000 0.000000
3471
      #> 3 1 0.1 886.9204 112.9355 48.03655 5.646775 5.646775
3472
      #> 4 1 0.2 786.6279 212.8183 44.31899 10.640917 10.640917
3473
      #> 5 1 0.3 697.6763 301.1252 40.24379 15.056258 15.056258
3474
      #> 6 1 0.4 618.7834 379.1657 36.29753 18.958286 18.958286
3475
      #> Model: housemodel
```

```
3476  #> ID time GUT CENT RESP DV CP
3477  #> 1677 1 167.5 1.218836e-22 671.4739 11.36504 33.57369 33.57369
3478  #> 1678 1 167.6 1.077787e-22 669.7973 11.38701 33.48987 33.48987
3479  #> 1679 1 167.7 9.538413e-23 668.1249 11.40901 33.40625 33.40625
3480  #> 1680 1 167.8 8.441714e-23 666.4567 11.43104 33.32283 33.32283
3481
      #> 1681 1 167.9 7.466548e-23 664.7926 11.45310 33.23963 33.23963
3482
      #> 1682 1 168.0 6.610140e-23 663.1327 11.47519 33.15664 33.15664
3483 #> [1] 1682 7
3484 #> 'data.frame': 1 obs. of 7 variables:
3485  #> $ ID : num 1
3486
      #> $ time: num 72
3487
      #> $ GUT : num 1000
3488 #> $ CENT: num 1037
3489 #> $ RESP: num 8
      #> $ DV : num 51.8
3490
3491
      #> $ CP : num 51.8
3492
      #> Model: housemodel
3493  #> ID time evid amt cmt GUT CENT RESP DV CP
3494  #> 1 1 0.0 0 0 0 0.0000 0.0000 50.00000 0.000000 0.000000
3495  #> 2 1 0.0 1 1000 1 1000.0000 0.0000 50.00000 0.000000 0.000000
3496
      #> 3 1 0.1 0 0 0 886.9204 112.9355 48.03655 5.646775 5.646775
3497
      #> 4 1 0.2 0 0 0 786.6279 212.8183 44.31899 10.640917 10.640917
3498  #> 5 1 0.3 0 0 0 697.6763 301.1252 40.24379 15.056258 15.056258
3499  #> 6 1 0.4 0 0 0 618.7834 379.1657 36.29753 18.958286 18.958286
3500 #> Events:
3501
      #> time cmt amt rate evid ii addl
3502
      #> 1 0 2 500 10 1 0 0
3503  #> 2 54 1 100 0 1 8 10
3504  #> ID amt cmt time addl ii rate evid
3505  #> 1 1 1000 1 0 3 24 0 1
3506
      #> 2 2 1000 2 0 0 0 20 1
3507
      #> 3 3 1000 1 0 0 0 0 1
3508 #> 4 3 500 1 24 0 0 0 1
3509  #> 5 3 500 1 48 0 0 0 1
3510 #> 6 3 1000 1 72 0 0 0 1
3511
      #> 7 4 2000 2 0 2 48 100 1
3512
      #> 8 5 1000 1 0 0 0 0 1
3513  #> 9 5 5000 1 24 0 0 60 1
3514  #> ID CL VC KA KOUT IC50 FO0
3515  #> 1 1 1.050 47.80 0.8390 2.450 1.280 4
3516
      #> 2 2 0.730 30.10 0.0684 2.510 1.840 6
3517
      #> 3 3 2.820 23.80 0.1180 3.880 2.480 5
3518  #> 4 4 0.552 26.30 0.4950 1.180 0.977 2
3519  #> 5 5 0.483 4.36 0.1220 2.350 0.483 10
3520  #> 6 6 3.620 39.80 0.1260 1.890 4.240 1
3521
      #> 7 7 0.395 12.10 0.0317 1.250 0.802 8
3522
      #> 8 8 1.440 31.20 0.0931 4.030 1.310 7
3523  #> 9 9 2.570 18.20 0.0570 0.862 1.950 3
3524 #> 10 10 2.000 6.51 0.1540 3.220 0.699 9
3525 #> Compiling irm1 ... done.
3526
      #> ----- mrgsolve model object (unix) ------
3527
      #> Project: /home/docker/R/mrgsolve/models
3528  #> source: irm1.cpp
3529 #> shared object: irm1-so-11ca12be109
3530 #> compile date:
3531  #> Time: start: 0 end: 24 delta: 1
3532
      #> > add:
3533  #> > tscale: 1
3534  #> Compartments: EV1 CENT PERIPH RESP EV2 [5]
3535  #> Parameters: CL VC Q VP KA1 KA2
3536 #> > KIN KOUT IC50 IMAX n VMAX
3537
      #> > KM [13]
3538  #> Omega: 0x0
3539  #> Sigma: 0x0
3540  #> Solver: atol: 1e-08 rtol: 1e-08
3541
      #> > maxsteps: 2000 hmin: 0 hmax: 0
3542
      #> Model: irm1.cpp
3543 #> Dim: 26 x 8
3544 #> Time: 0 to 24
3545 #> ID: 1
      #> ID time EV1 CENT PERIPH RESP EV2 CP
3546
3547
      #> [1,] 1 0 0.0000 0.0 0.000 5.0000 0 0.000
3548  #> [2,] 1 0 300.0000 0.0 0.000 5.0000 0 0.000
3549 #> [3,] 1 1 110.3638 174.6 9.758 1.8054 0 8.732
3550  #> [4,] 1 2 40.6006 217.7 26.371 0.9420 0 10.884
3551
      #> [5,] 1 3 14.9361 217.3 41.468 0.7950 0 10.864
      #> [6,] 1 4 5.4947 204.5 53.085 0.8014 0 10.227
3552
```

```
3553  #> [7,] 1 5 2.0214 189.9 61.313 0.8448 0 9.496
3554
      #> [8,] 1 6 0.7436 176.6 66.774 0.8969 0 8.829
3555 #> $...
3556
      #> [,1]
3557
      #> 1: 1
3558
      #> $...
3559
      #>[,1]
3560 #> 1: 1
3561 #> $...
3562 #> [,1] [,2] [,3]
3563
      #> 2: 1 0 0
3564 #> 3: 0 2 0
3565 #> 4: 0 0 3
3566 #> $...
3567
      #> [,1] [,2]
3568
      #> 5: 0.100 0.002
3569
      #> 6: 0.002 0.500
3570 #> $A
3571 #> [,1]
3572 #> 1: 1
3573
      #> $B
3574
      #> [,1] [,2] [,3]
3575 #> 2: 1 0 0
3576 #> 3: 0 2 0
3577 #> 4: 0 0 3
3578
      #> $C
3579
      #> [,1] [,2]
3580 #> 5: 0.100 0.002
3581 #> 6: 0.002 0.500
3582 #> $...
3583  #> [,1] [,2] [,3] [,4]
3584  #> ECL: 0.1 0.0 0.0 0.0
3585  #> EVC: 0.0 0.2 0.0 0.0
3586 #> EKA: 0.0 0.0 0.3 0.0
3587
      #> EKOUT: 0.0 0.0 0.0 0.4
3588
      #> [,1] [,2] [,3] [,4]
3589 #> 1: 0.1 0.0 0.0 0.0
3590 #> 2: 0.0 0.2 0.0 0.0
3591 #> 3: 0.0 0.0 0.3 0.0
3592 #> 4: 0.0 0.0 0.0 0.4
3593
      #> Model parameters (N=13):
3594 #> name value . name value
3595 #> CL 1 | SEXCL 0.7
3596 #> F1 1 | SEXVC 0.85
3597 #> IC50 10 | VC 20
3598 #> KA 1.2 | WT 70
3599 #> KIN 100 | WTCL 0.75
3600 #> KOUT 2 | WTVC 1
3601 #> SEX 0 | . .
3602 #> Model parameters (N=13):
3603
      #> name value . name value
3604 #> CL 1 | F1 1
3605  #> [1] "parameter_list"
3606  #> attr(,"package")
3607  #> [1] "mrgsolve"
3608
      #> [1] 1.2
3609
      #> $CL
3610 #> [1] 1
3611 #> $VC
3612 #> [1] 20
3613
      #> $KA
3614
      #> [1] 1.2
3615 #> $F1
3616 #> [1] 1
3617 #> $WT
3618
      #> [1] 70
3619
      #> $SEX
3620 #> [1] 0
3621 #> $WTCL
3622 #> [1] 0.75
3623
      #> $WTVC
3624
      #> [1] 1
3625 #> $SEXCL
3626 #> [1] 0.7
3627
      #> $SEXVC
3628
      #> [1] 0.85
```

3629

```
3630
      #> [1] 100
3631
      #> $KOUT
3632
      #> [1] 2
      #> $IC50
3634
      #> [1] 10
3635
      #> CL VC KA F1 WT SEX WTCL WTVC SEXCL SEXVC KIN KOUT IC50
3636
      #> 1 1 20 1.2 1 70 0 0.75 1 0.7 0.85 100 2 10
3637
      #> TD Wt Dose Time dv
3638
      #> 1 1 79.6 4.02 0.00 0.74
3639
      #> 2 1 79.6 4.02 0.25 2.84
3640
      #> 3 1 79.6 4.02 0.57 6.57
3641
      #> 4 1 79.6 4.02 1.12 10.50
3642
      #> 5 1 79.6 4.02 2.02 9.66
3643
      #> 6 1 79.6 4.02 3.82 8.58
3644
      #> 7 1 79.6 4.02 5.10 8.36
3645
      #> 8 1 79.6 4.02 7.03 7.47
3646
      #> 9 1 79.6 4.02 9.05 6.89
3647
      #> 10 1 79.6 4.02 12.12 5.94
3648  #> 11 1 79.6 4.02 24.37 3.28
3649
      #> 12 2 72.4 4.40 0.00 0.00
3650
      #> 13 2 72.4 4.40 0.27 1.72
3651
      #> 14 2 72.4 4.40 0.52 7.91
      #> 15 2 72.4 4.40 1.00 8.31
3652
      #> 16 2 72.4 4.40 1.92 8.33
3653
3654
      #> 17 2 72.4 4.40 3.50 6.85
3655
      #> 18 2 72.4 4.40 5.02 6.08
3656
      #> 19 2 72.4 4.40 7.03 5.40
      #> 20 2 72.4 4.40 9.00 4.55
3657
3658  #> 21 2 72.4 4.40 12.00 3.01
3659
      #> 22 2 72.4 4.40 24.30 0.90
3660
      #> 23 3 70.5 4.53 0.00 0.00
3661
      #> 24 3 70.5 4.53 0.27 4.40
3662
      #> 25 3 70.5 4.53 0.58 6.90
3663
      #> 26 3 70.5 4.53 1.02 8.20
3664
      #> 27 3 70.5 4.53 2.02 7.80
3665
      #> 28 3 70.5 4.53 3.62 7.50
3666
      #> 29 3 70.5 4.53 5.08 6.20
      #> 30 3 70.5 4.53 7.07 5.30
3667
3668 #> 31 3 70.5 4.53 9.00 4.90
3669
      #> 32 3 70.5 4.53 12.15 3.70
3670
      #> 33 3 70.5 4.53 24.17 1.05
3671
      #> 34 4 72.7 4.40 0.00 0.00
      #> 35 4 72.7 4.40 0.35 1.89
3672
3673 #> 36 4 72.7 4.40 0.60 4.60
3674
      #> 37 4 72.7 4.40 1.07 8.60
3675
      #> 38 4 72.7 4.40 2.13 8.38
3676
      #> 39 4 72.7 4.40 3.50 7.54
3677
      #> 40 4 72.7 4.40 5.02 6.88
3678  #> 41  4  72.7  4.40  7.02  5.78
3679
      #> 42 4 72.7 4.40 9.02 5.33
3680
      #> 43 4 72.7 4.40 11.98 4.19
3681
      #> 44 4 72.7 4.40 24.65 1.15
3682
      #> 45 5 54.6 5.86 0.00 0.00
3683
      #> 46 5 54.6 5.86 0.30 2.02
3684
      #> 47 5 54.6 5.86 0.52 5.63
3685
      #> 48 5 54.6 5.86 1.00 11.40
3686
      #> 49 5 54.6 5.86 2.02 9.33
      #> 50 5 54.6 5.86 3.50 8.74
3687
3688
      #> 51 5 54.6 5.86 5.02 7.56
3689
      #> 52 5 54.6 5.86 7.02 7.09
3690
      #> 53 5 54.6 5.86 9.10 5.90
3691
      #> 54 5 54.6 5.86 12.00 4.37
3692
      #> 55 5 54.6 5.86 24.35 1.57
3693
      #> 56 6 80.0 4.00 0.00 0.00
3694
      #> 57 6 80.0 4.00 0.27 1.29
3695
      #> 58 6 80.0 4.00 0.58 3.08
3696
      #> 59 6 80.0 4.00 1.15 6.44
3697
      #> 60 6 80.0 4.00 2.03 6.32
3698 #> 61 6 80.0 4.00 3.57 5.53
3699
      #> 62 6 80.0 4.00 5.00 4.94
3700
      #> 63 6 80.0 4.00 7.00 4.02
3701
      #> 64 6 80.0 4.00 9.22 3.46
3702
      #> 65 6 80.0 4.00 12.10 2.78
3703
      #> 66 6 80.0 4.00 23.85 0.92
3704
      #> 67 7 64.6 4.95 0.00 0.15
3705
      #> 68 7 64.6 4.95 0.25 0.85
3706
      #> 69 7 64.6 4.95 0.50 2.35
```