R Package Writing Workshop

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Hamilton 401

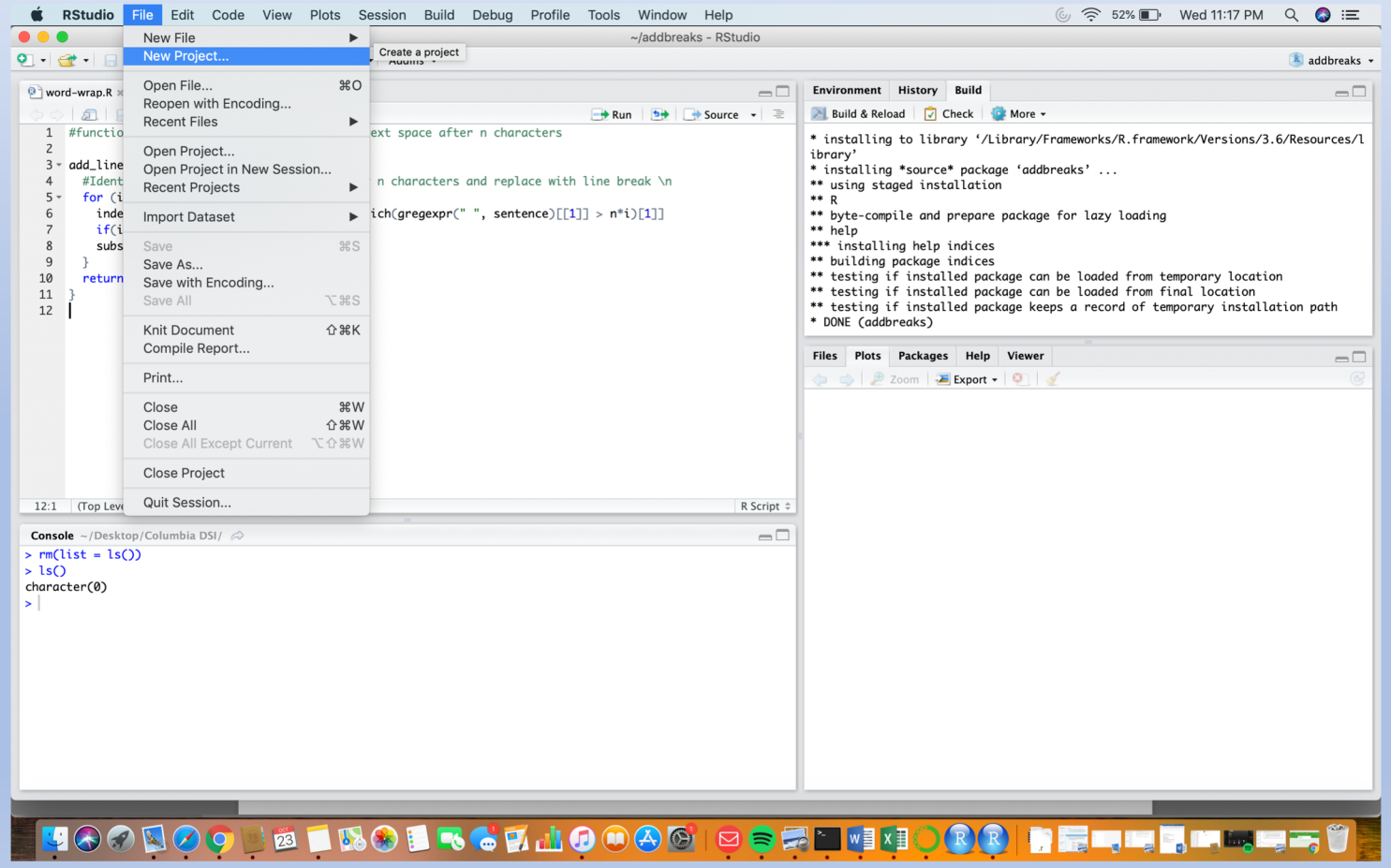
Step 1: Define function(s) that you want as part of your package in a .R file

word-wrap.R

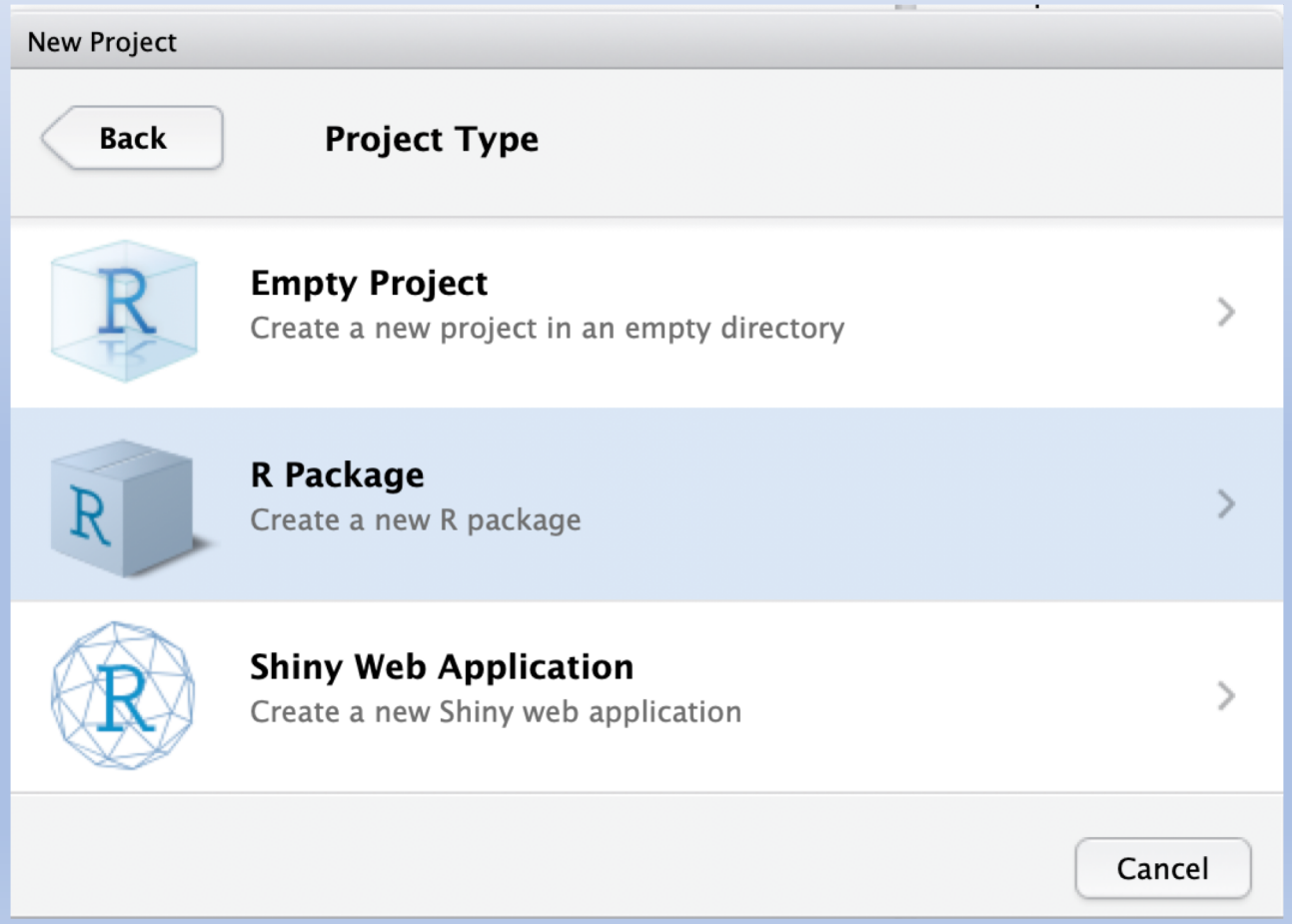
```r
#function to word wrap a sentence input on next space after n characters

add_line_break <- function(sentence, n){
  #Identify index of first space after every n characters and replace with line break \n
  for (i in 1:floor(nchar(sentence)/n)){
    index <- gregexpr(" ", sentence)[[1]][which(gregexpr(" ", sentence)[[1]] > n*i)[1]]
    if(is.na(index)) {next}
    substr(sentence, index, index) <- "\n"
  }
  return(sentence)
}
```

12:1 (Top Level) R Script

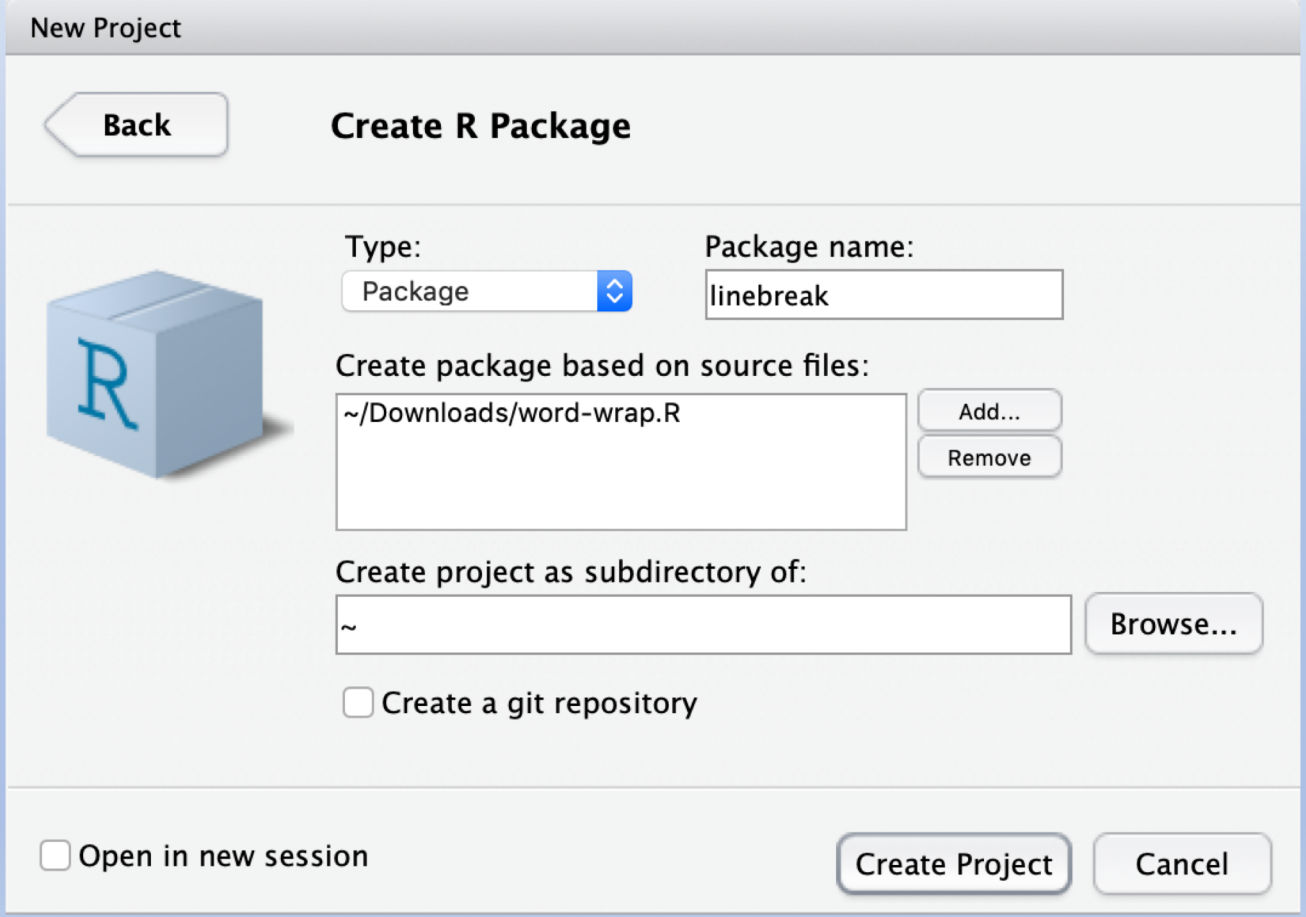
Step 2: Click on File → New Project



Step 3: Click on File → New Project → R Package



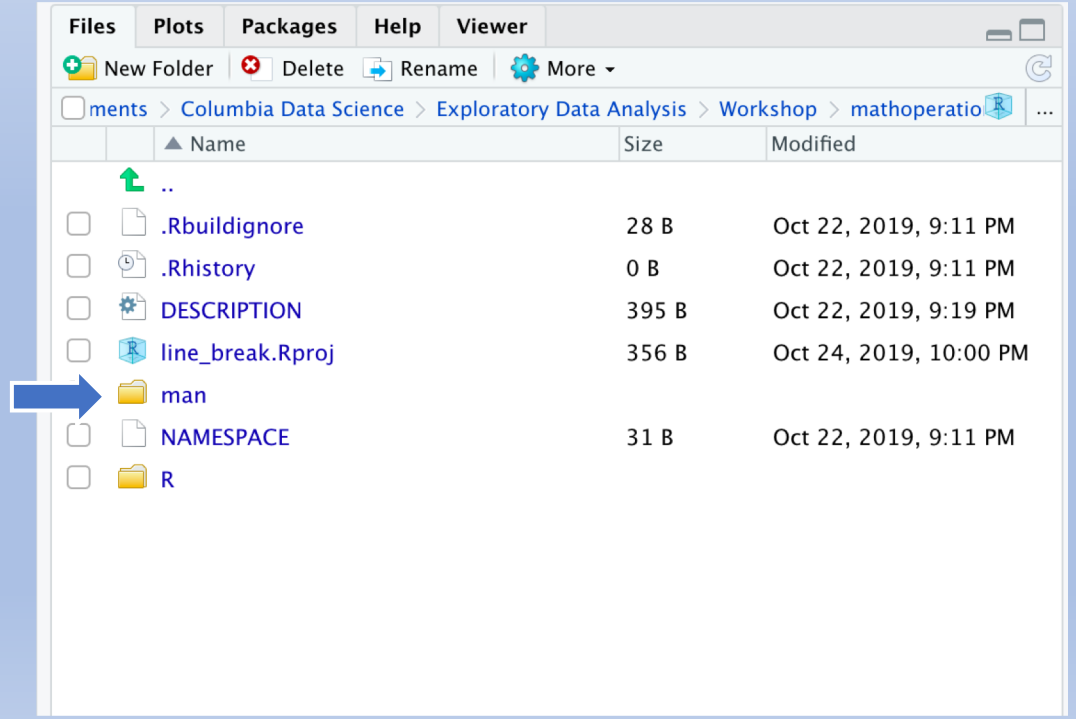
Step 4: Specify your package name and the .R file which have your function(s)

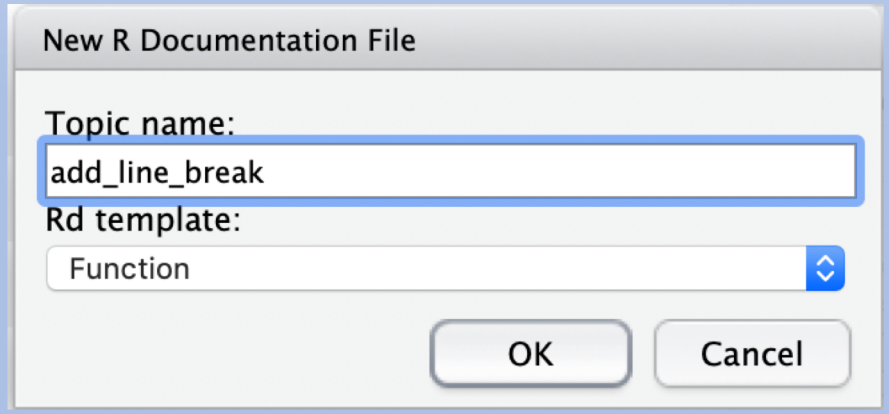


Now, your R project is ready!

Step 5: Create .Rd (R Documentation) file for every function and save in *man* directory

Specify '*Topic name*' as the name of your function and '*Rd template*' as Function





Step 6: Provide function *title*, *description*, *usage*, *arguments*, etc. in the .Rd file

- After filling in the details, save the file inside *man* directory of your R project
- You may fill this over time, but *title* field is mandatory for your package to compile
- The information you provide here appears when you pull function help: **?func_name**

Untitled1

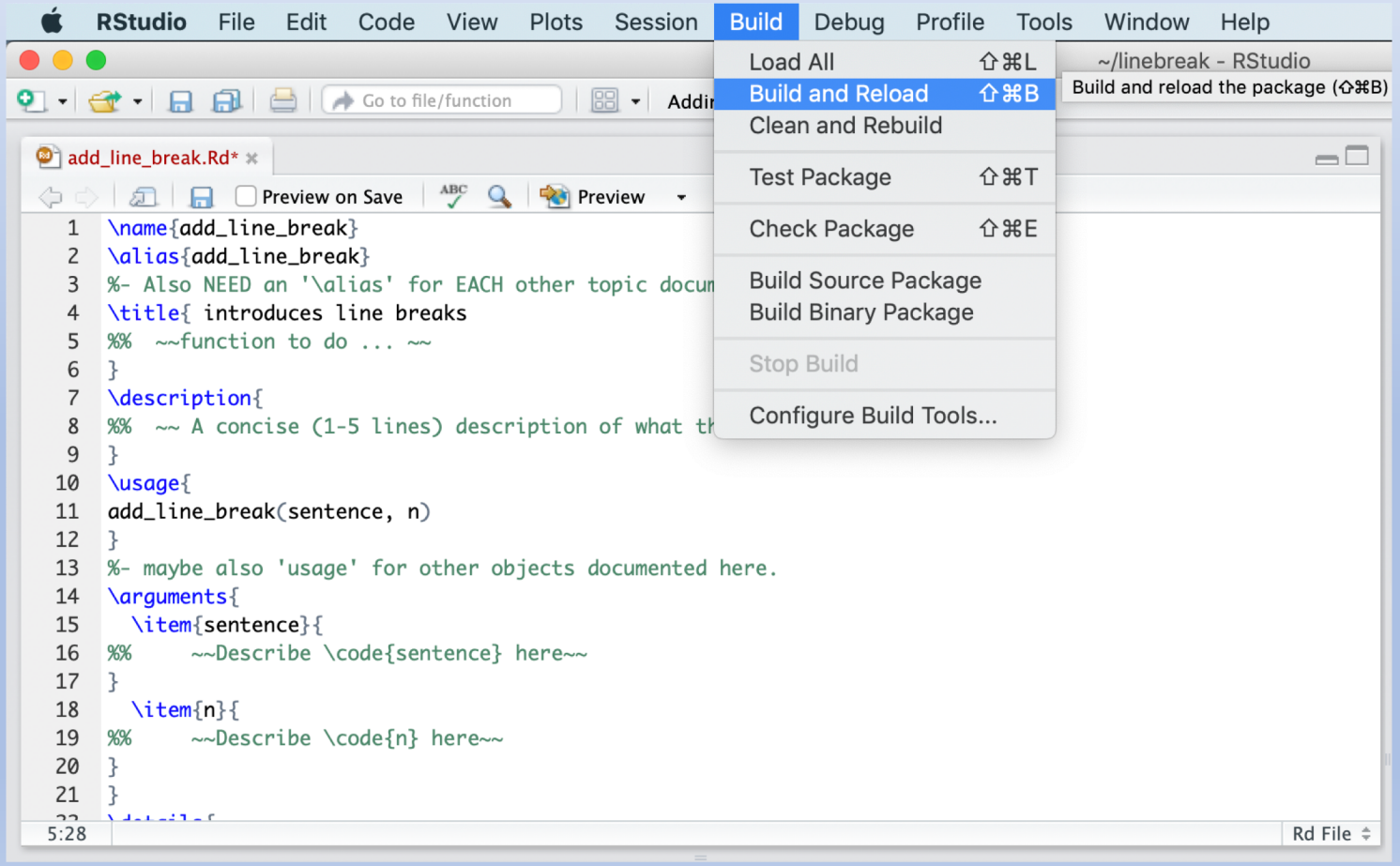
Preview on Save Preview

```
\name{add_line_break}
\alias{add_line_break}
%- Also NEED an '\alias' for EACH other topic documented here.
\title{
%%  ~~function to do ... ~~
}
\description{
%%  ~~ A concise (1-5 lines) description of what the function does. ~~
}
\usage{
add_line_break(x)
}
%- maybe also 'usage' for other objects documented here.
\arguments{
  \item{x}{
%%     ~~Describe \code{x} here~~
}
}
\details{
%%  ~~ If necessary, more details than the description above ~~
}
```

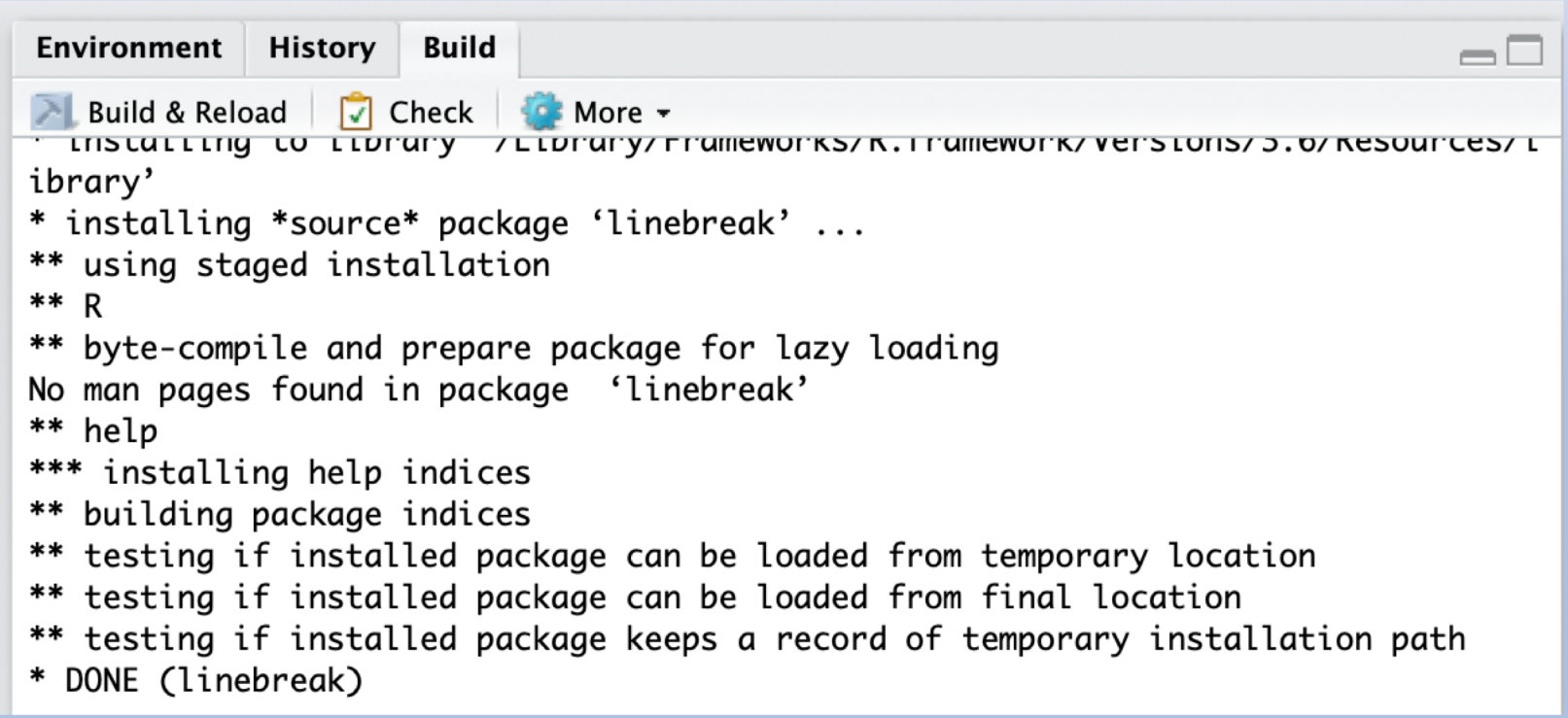
4:8 Rd File

Step 7: Once .Rd is created for each function: Build → Build and Reload

- Before executing this step, please make sure that ***devtools*** is installed in your RStudio

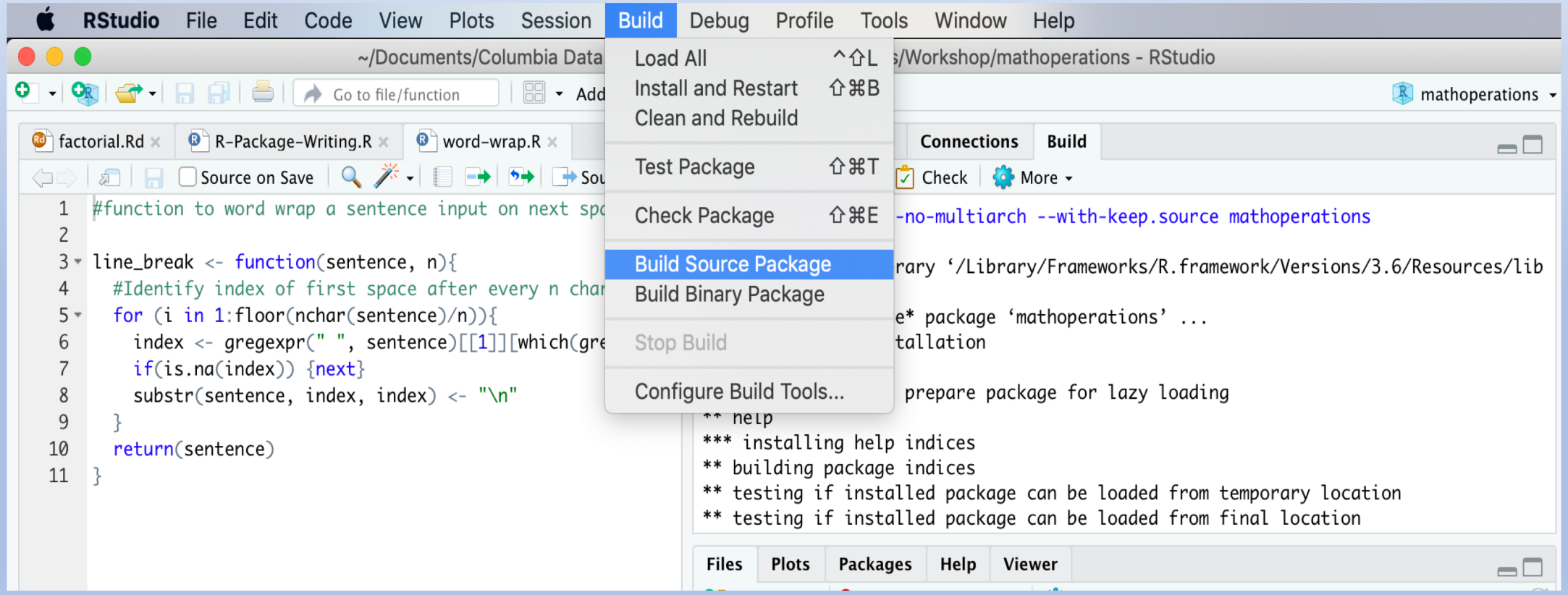


Step 8: Check build pane for success / any errors during package compilation



Step 9: Finally, export your package as .tar.gz: Build → Build Source Package

This is helpful for distribution or publishing your package on CRAN



Links

1) Creating an R Package

- http://web.mit.edu/insong/www/pdf/rpackage_instructions.pdf

2) Publish a package on CRAN

- http://r-pkgs.had.co.nz/release.html