R Skill Lab: Software download & Install Instructions

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This document outlines how to download and install two programs: R and RStudio.

Step 1: Download & install R

Note that you should download & install R first.

For Windows machines: - Go to https://cran.r-project.org/bin/windows/base/ - Click **Download R 4.2.0 for Windows** (current version as of 5.11.22) - Open the .exe file and follow recommended install instructions and settings

For Mac OS: - Go to https://cran.r-project.org/bin/macosx/ - Click **R-4.2.0.pkg** (current version as of 5.11.22) - Install following recommended install instructions and settings

Step 2: Download & install RStudio

For all: - Go to https://www.rstudio.com/products/rstudio/download/#download - Click on the installer **RStudio Desktop 2022.02.2+485** (current version as of 5.11.22) appropriate for your OS - Follow recommended install instructions and settings

##For more help or explicit instructions, see:

For Windows machines - http://www.reed.edu/data-at-reed/software/R/r_studio_pc.html

For Mac OS - http://www.reed.edu/data-at-reed/software/R/r_studio.html

Or email me with questions: toddcombs@wustl.edu

Step 4: Verify the installs

After installing the software, open RStudio and type the following code into the Console pane. You will be installing a package (also called a library) called *tidyverse*, and printing the first few rows of a dataset included in the package called mpg. The code is in color in the grey boxes and the output is in the lines starting with two hashtags ##.

```
install.packages('tidyverse', repos="http://ftp.ussg.iu.edu/CRAN/")
```

```
## Installing package into 'C:/Users/toddc/R/R-4.0.5/library'
## (as 'lib' is unspecified)
```

```
## package 'tidyverse' successfully unpacked and MD5 sums checked
##
## The downloaded binary packages are in
##  C:\Users\toddc\AppData\Local\Temp\RtmpMZ3eZp\downloaded_packages
```

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.1 --

## v ggplot2 3.3.5     v purrr   0.3.4
## v tibble  3.1.6     v dplyr   1.0.8
## v tidyr   1.2.0     v stringr 1.4.0
## v readr   2.1.2     v forcats 0.5.1

## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
mpg
```

```
## # A tibble: 234 x 11
##    manufacturer model      displ  year   cyl trans drv     cty   hwy fl    class
##    <chr>        <chr>      <dbl> <int> <int> <chr> <chr> <int> <int> <chr> <chr>
##  1 audi         a4           1.8  1999     4 auto~ f        18    29 p     comp~
##  2 audi         a4           1.8  1999     4 manu~ f        21    29 p     comp~
##  3 audi         a4           2    2008     4 manu~ f        20    31 p     comp~
##  4 audi         a4           2    2008     4 auto~ f        21    30 p     comp~
##  5 audi         a4           2.8  1999     6 auto~ f        16    26 p     comp~
##  6 audi         a4           2.8  1999     6 manu~ f        18    26 p     comp~
##  7 audi         a4           3.1  2008     6 auto~ f        18    27 p     comp~
##  8 audi         a4 quattro   1.8  1999     4 manu~ 4        18    26 p     comp~
##  9 audi         a4 quattro   1.8  1999     4 auto~ 4        16    25 p     comp~
## 10 audi         a4 quattro   2    2008     4 manu~ 4        20    28 p     comp~
## # ... with 224 more rows
```

You should see this output if you've installed R & RStudio correctly.

Step 5: Install tinytex and verify the install.

Open RStudio. R and RStudio have the ability to generate PDFs, Word docs, and HTML documents. To do so, you must install the *tinytex* library. Enter `install.packages("tinytex")` into the console. Once it is installed, enter `tinytex::install_tinytex()` into the console. Note that this is a special package and most other packages are completely installed like the *tidyverse* package above.

Now create an RMD (R Markdown) file. Choose *File - New file - R Markdown*; then choose *PDF* in the popup box, and click *OK*. Next, click the button *Knit* near the top left, and save the file with a title in the dialogue box. ***NOTE THE FILE LOCATION*** A PDF document like the included `TESTRMD.pdf` should display.