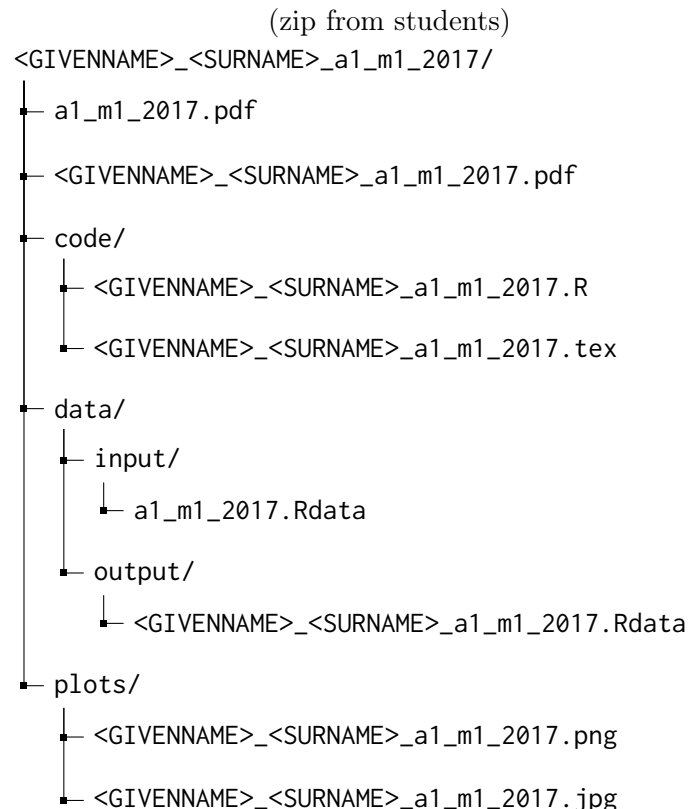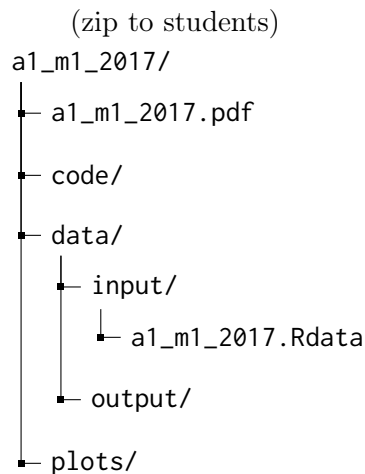2017 PSS SUMMER SCHOOL
Assignment 0
Due: 12:30pm on June 21

The purpose of this assignment is to test your installation of R, R-Studio, MiKTeX (TeXLive), and TeXMaker. Substantively, these exercises are meaningless. However, successful completion will ensure your software is working properly and that you can use Google to help with topics you are unfamiliar with.

1 Submission instructions

Please note: For this first assignment, in the interest of simplicity, a flat directory structure was chosen where all the files all are in the same directory. As we progress through the course a more complex structure like the one shown below will be used.

To submit your assignment, email all of your files in a single zip folder to `pss.ss.hw.submit@sp.frb.gov`. Please using the naming convention `<GIVENNAME>_<SURNAME>_a<NUMBER>_m1_2017.<FILEXTENSION>` for any **file that you edit or create**, for files that you simply use without modifying, such as the assignment directions or a data file, leave the name as is, usually something like `a1_m1_2017.pdf`. The below example shows you an example of the zip directory you receive and the one you will email submit after completion.

```
                                              (zip from students)
                                   <GIVENNAME>_<SURNAME>_a1_m1_2017/
                                   ├── a1_m1_2017.pdf
                                   ├── <GIVENNAME>_<SURNAME>_a1_m1_2017.pdf
                                   ├── code/
              (zip to students)    │   ├── <GIVENNAME>_<SURNAME>_a1_m1_2017.R
         a1_m1_2017/               │   └── <GIVENNAME>_<SURNAME>_a1_m1_2017.tex
         ├── a1_m1_2017.pdf        ├── data/
         ├── code/                 │   ├── input/
         ├── data/                 │   │   └── a1_m1_2017.Rdata
         │   ├── input/            │   └── output/
         │   │   └── a1_m1_2017.Rdata   │       └── <GIVENNAME>_<SURNAME>_a1_m1_2017.Rdata
         │   └── output/           ├── plots/
         └── plots/                │   ├── <GIVENNAME>_<SURNAME>_a1_m1_2017.png
                                   │   └── <GIVENNAME>_<SURNAME>_a1_m1_2017.jpg
```

Where you make the proper substitutions, e.g. `JUSTIN_SKILLMAN_a3_m1_2017.zip`. Remember that you don't need to change the names of the files you do not modify, such as `a1_m1_2017.Rdata`, only the files that you create or modify, as shown in the example above.

2 First time using the TeX typesetting system

Problem 2.1.

(a) In the zip folder find, `a0_m1_2017.tex`, a template .tex file for submitting the write-up of your homework.

(b) Create a folder on your local hard drive in the Desktop folder, it's path should look like: `Desktop/module_1/`. This is where you will save the contents of the zip directory.

(c) Modify the .tex template, including the contents and the name of the .tex file appropriately (adding `GIVENNAME_SURNAME` to the beginning of it) and compile it invoking TexMaker (press F1 to compile and view the resulting output as a pdf). This is the pdf you will turn in. Please note that you will need to recompile it after completing the next section.

3 First time using the R language

Problem 3.2.

(d) In the zip folder find the files `a0_m1_2017.R` and `a0_m1_2017.Rdata`.

(e) Move both of these file into your `module_1/a0/` folder.

(f) Open R-studio and run the code below, please note that we will explain these functions in detail during lecture time, this is purely to test functionality. You need to modify the filepath in the `setwd()` command, "YOUR NAME HERE", and the filename in the `save()` function.[1]

(g) Copy all of the output from R into your .tex file. Use the *verbatim* tags to display the text. Output is anything that R returns to you that you have not already typed in your .R script.

(h) You will turn in the .R script you edited as well.

Listing 1: Type the above into your .R file

```
1  setwd("C:/Users/m1jss03/Desktop/module_1/")
2
3  load("a0_m1_2017.Rdata")
4
5  ls()
6
7  str(longley_df)
8
9  my_name <- "YOUR NAME HERE"
10
11 save(list=ls(),file="GIVENNAME_SURNAME_a0_m1_2017.Rdata")
```

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[1]Note to Linux users: Use `~/module_1/` as your working directory, other than that there should be little difference in functionality across operating systems.