Lab 1: Using R and R markdown

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1. What is R Markdown?

Please download and knit the file called "R_Basics_for_Econometrics.Rmd" posted on Canvas. Read it and run the file to understand all of what you can do using R Markdown. To summarize, it is a format that allows you to combine text and R code. Refer to the cheat sheet to learn tricks of what you can do in R markdown.

2. Working with R

Use ```{r} to open a chunk of code, and ``` to close it. For example, the following chunk installs a package and then uses the function that you just installed:

```
#install.packages('fortunes')  # Install packages only ONCE
library(fortunes) # Call the package every time you use it
```

```
## Warning: package 'fortunes' was built under R version 3.5.2
```

```
fortune(204)
```

```
##
## memory problems (not me. my pc!)
##    -- Sara Mouro (subject line for an R-help request)
##       R-help (January 2008)
```

Tip for the assignments: **If your code does not work for some reason**, remember that you can always use ```{r eval = FALSE}, instead of ```{r} .

In r you can store different types of information:

```
name <- "Julieth"
female <-TRUE
year.of.graduation <- 2020  # Cross your fingers
colors.I.like <- c("green","orange","blue")
# You can also store dates, but don't worry about those for this course.
```

In-class Exercise

With the people at your table, create a vector of their names (character), age (numerical), and whether they like today's weather (logical). Then, combine the information into a dataframe.

```
names <- c("person 1", "person 2", "person 3")
age <- c(23,24,25)
like.weather.today <- c(FALSE, TRUE, FALSE)

data.for.estimation = data.frame(name=names,
                                 age=age,
                                 like.weather.today=like.weather.today)
```

A few things that you can do with this dataset. For example:

```
# Display the fist two people in the dataset and two variables
    data.for.estimation[1:2,c("name", "age")]
```

```
##       name age
## 1 person 1  23
## 2 person 2  24
```

```
# See a description of the data
    summary(data.for.estimation)
```

```
##        name        age       like.weather.today
##  person 1:1   Min.   :23.0   Mode :logical
##  person 2:1   1st Qu.:23.5   FALSE:2
##  person 3:1   Median :24.0   TRUE :1
##               Mean   :24.0
##               3rd Qu.:24.5
##               Max.   :25.0
```

```
# Access a variable in the dataset
    data.for.estimation$like.weather.today
```

```
## [1] FALSE  TRUE FALSE
```

```
    data.for.estimation[,"like.weather.today"]
```

```
## [1] FALSE  TRUE FALSE
```

```
# Make tabulation
    table(data.for.estimation$like.weather.today)
```

```
##
## FALSE  TRUE
##     2     1
```

```
# Create new variables (a dummy in this case)
    data.for.estimation <- within(data.for.estimation, {
      like.weather<-as.numeric(like.weather.today)
    })
```