

STAT 8010 R Lab 1: Read data into R

Whitney Huang

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Lab Objective

- To gain experience with R, a programming language and free software environment for statistical computing and graphics.
- To read data into R.

Setup

- You should have R installed, if not, open a web browser and go to (<http://cran.r-project.org>) and download and install R. It also helpful to install RStudio (<http://rstudio.com>).
- Create a folder for this R lab. Download the Maximum Heart Rate dataset at (<http://whitneyhuang83.github.io/maxHeartRate.csv>) and save it in the folder you just created.

Load a max heart rate dataset

There are several ways to load a dataset into R:

- Importing Data over the Internet

```
dat <- read.csv('http://whitneyhuang83.github.io/STAT8010/Data/maxHeartRate.csv', header = T)
```

Let's take a look at the data

```
dat
```

```
##      Age MaxHeartRate
## 1    18           202
## 2    23           186
## 3    25           187
## 4    35           180
## 5    65           156
## 6    54           169
## 7    34           174
## 8    56           172
## 9    72           153
## 10   19           199
## 11   23           193
## 12   42           174
## 13   18           198
## 14   39           183
## 15   37           178
```

- Read the dataset from you computer

```
dat <- read.csv('maxHeartRate.csv', header = T)
```

- If the data is not too big, you can type the data into R

```
age <- c(18, 23, 25, 35, 65, 54, 34, 56, 72, 19, 23, 42, 18, 39, 37)
maxHeartRate <- c(202, 186, 187, 180, 156, 169, 174, 172, 153,
```

```

199, 193, 174, 198, 183, 178)
dat <- data.frame(cbind(age, maxHeartRate))

```

Load a Facebook dataset

```

FBdata <- read.csv('/Users/wkhuang/Desktop/Desktop - mass-mini19-huang/Teaching/R/FacebookFriends.csv',
                  header = T)
str(FBdata)

## 'data.frame': 134 obs. of 3 variables:
## $ Friends : int 102 102 102 102 102 102 102 102 102 102 ...
## $ Participant: int 1 2 3 4 5 6 7 8 9 10 ...
## $ Score : num 3.8 3.6 3.2 2.4 4.8 3 4.2 3.6 3.2 3 ...

```

Loading a built-in R data

```

data("mtcars")
head(mtcars, 6)

##           mpg  cyl  disp  hp  drat    wt  qsec vs  am  gear  carb
## Mazda RX4      21.0   6  160 110 3.90 2.620 16.46 0  1    4    4
## Mazda RX4 Wag  21.0   6  160 110 3.90 2.875 17.02 0  1    4    4
## Datsun 710      22.8   4  108  93 3.85 2.320 18.61 1  1    4    1
## Hornet 4 Drive  21.4   6  258 110 3.08 3.215 19.44 1  0    3    1
## Hornet Sportabout 18.7   8  360 175 3.15 3.440 17.02 0  0    3    2
## Valiant         18.1   6  225 105 2.76 3.460 20.22 1  0    3    1
?mtcars

```