```
# this is a comment
# create an object a and assign it the value of
a <- 1
b = 3

# increment a by 1
a + 1

# now create b
b <- a + 1

# now let's see
b

#vector
# let's create a vector of numbers the mean of which I want to calculate
# to create a vector we use c()
vec <- c(10, 10, 10, 10, 64, 30, 23, 13, 97, 10)

# Built-in functions
# https://www.statmethods.net/management/functions.html

# R is case sensitive! I can't spell lenght!
length(vec)

# let's get the mean
# mean is the sum of all values divided by the number of values
sum(vec)/length(vec)

# we can use a function built in in R
mean(vec)

# I could save this mean in an object

meanx = mean(vec)
meanx

#summary() is another function built-in in R
summary(vec)

# the only thing missing is the SD
sd(vec)

v2 = c(11,12,13,14,15,16,17,18,19,20)
```

```
vec + v2
vec * v2
vec / v2

sqrt(v2)

# IMPORTING there are many ways!
  # File
  # Environment

Z.Scores.Data <- read.csv("~/Desktop/Z Scores Data.csv")

zdat = Z.Scores.Data

View(zdat)
names(zdat)
dim(zdat)


# Packages
# R packages are collections of functions
# and data sets developed by the community.

# First we install the package
# Can also be done using Tools > Install Packages
install.packages("psych")
# Next we tell R we actually want to use it!
# This has to be done every session.
library(psych)

# What's inside this package? Tell me more...
?psych

# We can also find PDFs with examples and information
https://cran.r-project.org/web/packages/psych/index.html

# Open the library yarrr
library(yarrr)
# Load the dataset pirates
??pirates
data("pirates")

# Explore the dataset
```

```
head(pirates)
tail(pirates)
names(pirates)

# View()

# Explain ::
# Explain describe()
  # describe comes from the psych package
  # similar to summary() will provide descriptive information
  # mean, min, max, SD, n, skewness/kurtosis
# Explain $ operator
  # format will always be dataset$vector

psych::describe(pirates$favorite.pirate) #error #ugly #WTF
psych::describe(pirates$parrots)

# Structure
str(pirates)
summary(pirates)

# What is the mean age?
mean(pirates$age)

# tallest participant
max(pirates$height)

# Gender of participant
table(pirates$sex)

# Generating my own data
library(eRm)
#sim.rasch(persons, items, seed = NULL)
sim.rasch(persons = 150, items=5)
mydata= sim.rasch(persons = 150, items=5)
mydata

dim(mydata)

RM(mydata)

# Play with built-in datasets

#Type in data() to find a dataset
```

```
#Select a dataset data("nameOfDataset")
#Play with head(), tail(), names(), dim()
```