#Lab 1

#14 January 2019

#add 2 to 3

2 + 3

> 2 + 3

[1] 5

#multiply 3 by 7

3 \* 7

> 3 \* 7

[1] 21

#divide 12 by 4

12 / 4

> 12 / 4

[1] 3

#raise 4 to the 3rd power

4^3

> 4^3

[1] 64

#take the square root of 144

sqrt(144)

> sqrt(144)

[1] 12

#starting with vectors

c(1,2,3,4,5)

> c(1,2,3,4,5)

[1] 1 2 3 4 5

#create a variable, x, and assign it the value 7

x <- 7

x

> x <- 7

> x

[1] 7

#create a vector, x, and set it euqal to 1,2,3,4,5

x <- c(1,2,3,4,5)

x

> x <- c(1,2,3,4,5)

> x

[1] 1 2 3 4 5

#multiply x by 3

x \* 3

> x \* 3

[1] 3 6 9 12 15

#create a vector y and set it equal to x \* 5

y <- x\*5

y

> y <- x\*5

> y

[1] 5 10 15 20 25

#subtract x from 7

y - x

> y - x

[1] 4 8 12 16 20

#take the square root of every element in y

sqrt(y)

> sqrt(y)

[1] 2.236068 3.162278 3.872983 4.472136 5.000000

#take the mean of y

mean(y)

> mean(y)

[1] 15

#take the median of y

median(y)

> median(y)

[1] 15

#take the standard deviation of y

sd(y)

> median(y)

[1] 15

#find the interquartile range of y

IQR(y)

> IQR(y)

[1] 10

#find the tenth quantile of y

quantile(y, 0.10)

> quantile(y, 0.10)

10%

7

#sum of all values in y

sum(y)

> sum(y)

[1] 75

#statistical summary of all values in y

summary(y)

> summary(y)

Min. 1st Qu. Median Mean 3rd Qu. Max.

5 10 15 15 20 25

#what is the 3rd value in y

y[3]

> y[3]

[1] 15

#what is the 3rd through the 5th values in y?

y[c(3,4,5)]

> y[c(3,4,5)]

[1] 15 20 25

y[3:5]

> y[3:5]

[1] 15 20 25

#what are the values from 2 to the end of y?

y[2:length(y)]

> y[2:length(y)]

[1] 10 15 20 25

#create g, a sequence of numbers from 1 to 10000

g <- seq(1:10000)

#create a sequencem called f, from 1 to 10000 by 3

f <- seq(from = 1, to = 10000, by = 3)

#create a vector 10 numbers long, full of zeros

rep(0, 10)

> rep(0, 10)

[1] 0 0 0 0 0 0 0 0 0 0