Class 06: R Functions

Quarto

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see https://quarto.org.

Running Code

Every functioni in R has at least 3 things: -name (you pick it) -arguments (the inputs(s) to your function), and -the body

```
# Example input vectors to start with
student1 <- c(100, 100, 100, 100, 100, 100, 100, 90)
student2 <- c(100, NA, 90, 90, 90, 90, 97, 80)
student3 <- c(90, NA, NA, NA, NA, NA, NA, NA)

mean(student1)
```

[1] 98.75

```
min(student1)
```

[1] 90

```
max(student1)
```

[1] 100

```
which.min(student1) # which of the values is the minimum
```

[1] 8

```
student1[-8]
```

[1] 100 100 100 100 100 100 100

```
#Q1: function to determine this
grade <- function(x){
  x[is.na(x)] <-0
  mean(x[-which.min(x)])
}
grade(student2)
```

[1] 91

QUESTION 2

```
#Q2
data <- read.csv("https://tinyurl.com/gradeinput",
                 row.names=1)
# for each row in data, apply grade function
answer2<- apply(data,1,grade)
which.max(answer2)
```

student-18
       18

QUESTION 3

```
hw_avg <-apply(data,2,mean,na.rm=TRUE)
which.min(hw_avg)
```

hw3
  3

```
mask <- data
mask[is.na(mask)] <-0
which.min(apply(mask,2,mean))
```

hw2
 2

```
apply(mask,2,cor,y=answer2)
```

      hw1   hw2   hw3   hw4   hw5
0.4250204 0.1767780 0.3042561 0.3810884 0.6325982

```
#homework 5!
```

HW 5