**MODULE # 2 ASSIGNMENT**

**INTRODUCTION TO BASIC R FUNCTIONS AND DATA STRUCTURES**

In the book/manual (Venables et al., 2022) it is mentioned that.

**“A function is defined by an assignment of the form.**

**> name <- function (arg\_1, arg\_2, ...) expression**

**This expression is used to calculate a value. Value of the expression is the value returned for the function”.**

Using this expression and formula for the mean which is defined by sum of the digits divided by total number of digits,

I understood that mean function can be expressed as

myMean <- function(assignment2{return(sum(assignment2)/length(assignment2))}

R usually has already existing functions in its programming language. For example, adding values to the environment and then calling for mean. Using command mean(assignment2) is enough to get the result. But, in case if R doesn't have inbuilt designated tasks, then it can be carried by defining each single task in the formula. Like defining values such as

length which includes the total number of digits we want to add and sum which is the addition of the digits. So, Mean can be obtained by calling the other two values we defined, like sum / length.

Data Frame:

>assignment2 <- c(16, 18, 14, 22, 27, 17, 19, 17, 17, 22, 20, 22)

**Inbuilt designated tasks:**

When I implemented this code, I got mean as

>assignment2 <- c (16, 18, 14, 22, 27, 17, 19, 17, 17, 22, 20, 22)

>mean(assignment2)

[1] 19.25

**if inbuilt designated task is absent:**

> assignment2 <- c(16, 18, 14, 22, 27, 17, 19, 17, 17, 22, 20, 22)

> myMean <- function(assignment2){return(sum(assignment2)/length(assignment2))}

> myMean(assignment2)

[1] 19.25

**I have also implemented this code to get mean:**(University of Florida, 2007)

>assignment2 <- c(16, 18, 14, 22, 27, 17, 19, 17, 17, 22, 20, 22)

>s=sum(assignment2)

>n=length(assignment2)

>myMean(assignment2)<- function(assignment2){return(s/n)}

>myMean(assignment2)

When I implemented this code, I got mean as

[1] 19.25

**Through this assignment, I see that the mean has been calculated accurately through the function created for calculating the mean.**

**Reference**

Venables,W.N., Smith,D.M., & R core team.(2022).*An Introduction to R*(Version 4.2.2).

URL: <https://cran.r-project.org/doc/manuals/r-release/R-intro.pdf>

University of Florida. (2007). *Writing Functions Using R.*

URL: <http://media.news.health.ufl.edu/misc/bolt/Software_R/docs/03_WorkingWithFunctions.pdf>