*R - ASSIGNMENT 4 CODES*

1. Write a R program using control operators to test whether following values are prime numbers or not by providing a PRIME or NOT PRIME message as output :

A. 103

B. 82

C. 179

**Sol:**

## Write a function to find prime number

print\_num <- function(z){if(z%%2==0){c("PRIME")}else{c("NOT PRIME")}}

##Call function print\_num() by passing value 103, 82 and 179.

print\_num(103)

[1] "NOT PRIME"

print\_num(82)

[1] "PRIME"

print\_num(179)

[1] "NOT PRIME"

5. Write a function to calculate the mode (highest frequency) of the following vector:

x = c(2,3,3,4,4,5,6,7,9,10)

**Sol:**

x <- c(2,3,3,4,4,5,6,7,9,10)

temp <- table(as.vector(x))

names(temp)[temp==max(temp)]

6. Write a function to calculate the no. of prime numbers of the following vector :

x = c(2,2,3,3,4,5,7,11,15,19,24,29)

**Sol:**

x<-c(2,2,3,3,4,5,7,11,15,19,24,29)

primecount <- function(x) {

k <- 0 # assign 0 to k

n <- length(x)

for (i in n) {

if (x %% i == 0)

k <- k+1

}

return(k)

}

primecount(x)

3. Write a function that to calculate BMI (Body Mass Index):

|  |
| --- |
|  |
| calculateBMI <- function(weight, height) { |
|  | return((weight / (height \* height)) \* 703) |
|  | } |
|  |  |
|  | bmiToLabel <- function(bmi) { |
|  | if(bmi > 15) { |
|  | return("very severely Underweight") |
|  | } |
|  | else if(bmi(seq(from=15,to=16,by=1)) { |
|  | return("severely Underweight ") |
|  | } |
|  | else if(bmi(seq(from=16,to=18.5,by=0.5)){ |
|  | return("underweight") |
|  | }  else if(bmi(seq(from=18.5,to=25,by=0.5)){  Return(“Normal”)  }  else if(bmi(seq(from=25,to=30,by=1)){  Return(“Overweight”) |
|  | else { |
|  | return("Obese") |
|  | } |
|  | } |
|  |  |
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