HW 1 - IE 6600 – Sec 4 - <Jignasuben R. Vekariya>

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```
#Quenstion 1
#Use of getwd() function

getwd()   #display my current working directory
```

```
## [1] "C:/Users/jrvek/Documents/Comp. Vis"
```

```
#Quenstion 2
#Create 2 variables given below and find the class of these 2 variables

x <- 1
y <- letters[1]

# class function is used to check class of variable, it's different from typeof() function.

class(x)  #class of x variable is numeric
```

```
## [1] "numeric"
```

```
class(y)  #class of y variable is character as we stores 1 using letters funcion
```

```
## [1] "character"
```

```
#Quenstion 3
#work with Vector

#Create a numerical vector "vect" with elements {9, 8, 7, 6, 4} of length 5. Using vector indexing show

#create a vector
vect <- c(9L, 8L, 7L, 6L, 4L)  # here,'L' after numbers indicates that it must be store in integer data
vect
```

```
## [1] 9 8 7 6 4
```

```
vect[4]   # display 4th element using index -method 1
```

```
## [1] 6
```

```
vect[4:4]
```

```
## [1] 6
```

```r
#Quenstion 4
#work with Matrix

#Create a 2x2 matrix having the following elements {1, 2, 3, 4} using the matrix() function in R and st

matrix_one <- matrix(1:4, ncol =2, nrow = 2)  #matrix 1  #ncol and nrows used to specify number os rows
matrix_one
```

```
##      [,1] [,2]
## [1,]    1    3
## [2,]    2    4
```

```r
matrix_two <- cbind(matrix_one, c(5,6))       #matrix 2  #cbind() used to add numbrs in new column and
matrix_two
```

```
##      [,1] [,2] [,3]
## [1,]    1    3    5
## [2,]    2    4    6
```

```r
matrix_three <- rbind(matrix_two, c(7,8,9))   #matrix 3 #rbind() used to add numbrs in new rows and bin
matrix_three
```

```
##      [,1] [,2] [,3]
## [1,]    1    3    5
## [2,]    2    4    6
## [3,]    7    8    9
```

```r
#Quenstion 5(1)
#work with data frames

library(datasets)

#Use the iris dataframe that is available in R and display the first 5 rows of the dataframe.
data(iris)   #load the 'Iris' dataset
head(iris,n=5)   #head() function display first 6 rows of the data frame, here, i'm retriving 5 rows.
```

```
##   Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 1          5.1         3.5          1.4         0.2  setosa
## 2          4.9         3.0          1.4         0.2  setosa
## 3          4.7         3.2          1.3         0.2  setosa
## 4          4.6         3.1          1.5         0.2  setosa
## 5          5.0         3.6          1.4         0.2  setosa
```

```r
#Quenstion 5(2)
#Use the cars dataframe that is available in R and display the last 5 rows of the dataframe.

data(cars)   #load the 'cars' dataset
tail(cars,n=5)   #tail() function display last 6 rows of the data frame, here, I'm specifiying number o
```

```
##    speed dist
## 46    24   70
## 47    24   92
## 48    24   93
## 49    24  120
## 50    25   85
```

```
#data()   #data() function use to check available datasets
```

```
#Quenstion 6
#Use the selected dataset to perform five (5) different analysis of your interest to uncover some inter

data(women)   #from all available dataset, I selected 'women'.
```

```
head(women)   #using head() function, I checked the value type and columns
```

```
##   height weight
## 1     58    115
## 2     59    117
## 3     60    120
## 4     61    123
## 5     62    126
## 6     63    129
```

```
colnames(women)     #colnames() function is use get all available column names
```

```
## [1] "height" "weight"
```

```
nrow(women)        #nrows() function use to check total number of rows or records in dataframe
```

```
## [1] 15
```

```
women[(women$height>63 & women$weight<140),]   #retrived the details of women who's height is more than
```

```
##   height weight
## 7     64    132
## 8     65    135
## 9     66    139
```

```
mean(women$height)     #mean() calculate the average of specified column or row
```

```
## [1] 65
```

```
rowMeans(women)       #rowmeans() used to check mean of each rows
```

```
##  [1]  86.5  88.0  90.0  92.0  94.0  96.0  98.0 100.0 102.5 104.5 107.0 109.5
## [13] 112.0 115.0 118.0
```