Assignment No	6
Title	Basics Of R
Objective	1) Learn basics set working directories, vectors and vector operators. 2) Create 2 vectors with 10 elements with each vector. **Note**: Vectors should not contain values from 1 to 10. Values must be 10 random values Do addition and subtraction of these vectors and all other operations on these two vectors.
Roll No	MCA2565

1>>Learn basics set working directories, vectors and vector operators.

1) First.R

Source Code :-

```
x<-5
x
class(x)
length(x)
y=(8:15)
y
class(y)
length(y)
b=seq (from=1, to =13, by=2 )
b
my_num=c(5,7,2,4,9,10)
my_num
c="Atharva"
c
class(c)
length(c)
fruits=c("apple","pineapple","Watermelon")
fruits
```

objects()

Output :-

```
> x<-5
> b=seq (from=1, to =13, by=2 )
> x<-5
> x
[1] 5
> class(x)
[1] "numeric"
> length(x)
[1] 1
> y=(8:15)
> y
[1]  8  9 10 11 12 13 14 15
> class(c)
[1] "character"
> length(c)
[1] 1
> fruits=c("apple","pineapple","watermelon")
> fruits
[1] "apple"      "pineapple"  "watermelon"
> objects()
[1] "b"      "c"      "fruits" "my_num" "x"      "y"
```

```
> class(y)
[1] "integer"
> length(y)
[1] 8
> b=seq (from=1, to =13, by=2 )
> b
[1]  1  3  5  7  9 11 13
> my_num=c(5,7,2,4,9,10)
> my_num
[1]  5  7  2  4  9 10
> c="Atharva"
> c
[1] "Atharva"
```

2) String.R

Source Code:-

```
myString<-"Hello World"
print(myString)
myString
setwd("C:/Users/mcamock/Desktop/DSLab2565")
getwd()
```

Output:-

```
> getwd()
[1] "C:/Users/mcamock/Documents"
```

3) varAssign.R

Source Code :-

```
dir()

x<-1
class(x)
print(x)

data()
library(tools)
ls()
```

```
#is function
x=1
is.character(x)
is.integer(x)
is.numeric(x)
is.double(x)

#as function
y<-'2.14'
as.integer(y)
as.double(y)
as.numeric(y)
as.character(y)
```

Output :-

```
> dir()
  [1] "!!MvGR4_qhlogs.txt"
  [2] "!qhlogs.doc"
  [3] "1ppZSux_qhlogs.csv"
  [4] "aAVio9L_qhlogs.doc"
  [5] "Custom Office Templates"
  [6] "desktop.ini"
  [7] "IISExpress"
  [8] "My Music"
  [9] "My Pictures"
 [10] "My Tableau Repository"
 [11] "My Videos"
 [12] "My Web Sites"
 [13] "package com.example.myapplication;.txt"
 [14] "Power BI Desktop"
 [15] "R"
 [16] "tOFPvoQ_qhlogs.log"
 [17] "WindowsPowerShell"
 [18] "z2awWIh_qhlogs.xls"
```

```
> data()
> library(tools)
>
> x<-1
> class(x)
[1] "numeric"
> print(x)
[1] 1
> class(x)
[1] "numeric"
> print(x)
[1] 1
```

```
> #is function
> x=1
> is.character(x)
[1] FALSE
> is.integer(x)
[1] FALSE
> is.numeric(x)
[1] TRUE
> is.double(x)
[1] TRUE
```

```
> #as function
> y<-'2.14'
> as.integer(y)
[1] 2
> as.double(y)
[1] 2.14
> as.numeric(y)
[1] 2.14
> as.character(y)
[1] "2.14"
> y<- seq(1,10,length.out =5)
```

4) vector.R

Source Code :-

```
x<- c(61,4,11,23,3,5)
cat('\n','Vector using C function','\n',x)
length(x)
typeof(x)
class(x)
#over here the values which are inserted int x are printed
directly as it is

y<- seq(1,10,length.out =5)
cat('\n','Vector using seq function','\n',y)
length(y)
typeof(y)
#here the to reach the sequence number to 10 in 5 parts
the number are added with 2.25 of difference

z<-2:7
cat('\n','vector using range','\n',z)
length(z)
typeof(z)
class(z)
#here the range is given from 2 to 7 and all the values are displayed
which comes under the range including 2 and 7

y<-c('apple','banana','cherry')
length(y)
y
```

Output:-

```
> x<- c(61,4,11,23,3,5)
> cat('\n','Vector using C function','\n',x)

 Vector using C function
 61 4 11 23 3 5
> length(x)
[1] 6
> typeof(x)
[1] "double"
> class(x)
[1] "numeric"
```

```
> y<- seq(1,10,length.out =5)
> cat('\n','Vector using seq function','\n',y)

 Vector using seq function
 1 3.25 5.5 7.75 10
> length(y)
[1] 5
> typeof(y)
[1] "double"

> z<-2:7
> cat('\n','vector using range','\n',z)

 vector using range
 2 3 4 5 6 7
> length(z)
[1] 6
> typeof(z)
[1] "integer"
> class(z)
[1] "integer"

> y<-c('apple','banana','cherry')
> length(y)
[1] 3
> y
[1] "apple"  "banana" "cherry"
```

5) AddSub.R

Source Code :-

```
a<-5
b<-7
a>b
b>5
a==3
a!=b
x<-c(3,4,7)
y<-c(4,4,7)
x<y
x+y
x-y
x*y
x/y
x[3]
z<-y[2]
z
x[1:3]  #to display elements
y[-2]  #use to exclude an element from the array
x[c(1,3)]    #to select multiple values but only selective
```

Output :-

```
> a<-5
> b<-7
> a>b
[1] FALSE
> a==3
[1] FALSE
> a!=b
[1] TRUE
> x<-c(3,4,7)
> y<-c(4,4,7)
> x<y
[1]  TRUE FALSE FALSE
> x+y
[1]  7  8 14
> x-y
[1] -1  0  0
> x*y
[1] 12 16 49
> x/y
[1] 0.75 1.00 1.00
> x[3]
[1] 7
> z
[1] 2 3 4 5 6 7
> z<-y[2]
> z
[1] 4
> x[1:3]
[1] 3 4 7
> y[-2]
[1] 4 7
> x[c(1,3)]    #to select multiple values
[1] 3 7
```

**2>>Create 2 vectors with 10 elements with each vector.

Note: Vectors should not contain values from 1 to 10.

Values must be 10 random values

Do addition and subtraction of these vectors and all other operations on these two vectors.****

Source Code :-

```
x<-c(11,22,33,44,55,66,77,88,99,65)
y<-c(12,25,15,45,86,95,35,26,47,71)
x<y
x+y
x-y
x[4]
z<-y[5]
z
x[3:7]
y[c(-1,-3,-5,-7,-9)]
x[c(5,7)]
```

Output :-

```
> x<-c(11,22,33,44,55,66,77,88,99,65)
> y<-c(12,25,15,45,86,95,35,26,47,71)
> x+y
 [1]  23  47  48  89 141 161 112 114 146 136
> x-y
 [1]  -1  -3  18  -1 -31 -29  42  62  52  -6
> x[4]
[1] 44
> z<-y[5]
> z
[1] 86
> x[3:7]
[1] 33 44 55 66 77
> y[c(-1,-3,-5,-7,-9)]
[1] 25 45 95 26 71
> x[c(5,7)]
[1] 55 77
> x<y
 [1]  TRUE  TRUE FALSE  TRUE  TRUE  TRUE FALSE FALSE FALSE  TRUE
```