

**Sub : Foundations for Data Analytics**

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**Assignment 2:**

**Date: 09/02/2021**

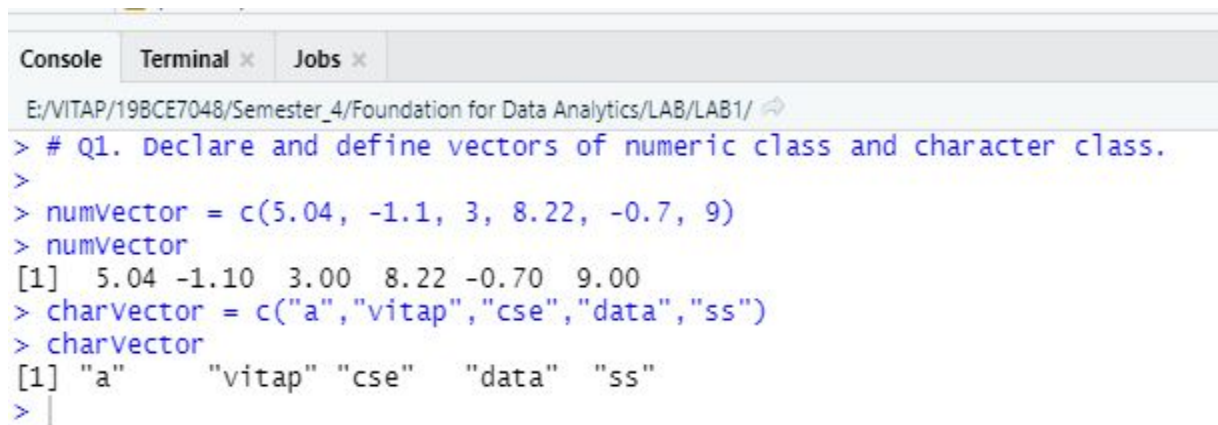
**Q1. Declare and define vectors of numeric class and character class.**

```
> numVector = c(5.04, -1.1, 3, 8.22, -0.7, 9)
```

```
> numVector
```

```
> charVector = c("a","vitap","cse","data","ss")
```

```
> charVector
```

A screenshot of an R console window. The window has tabs for 'Console', 'Terminal', and 'Jobs'. The 'Console' tab is active, showing the R prompt and the execution of the code for Q1. The code includes comments and the creation of two vectors: 'numVector' and 'charVector'. The output for 'numVector' is displayed as a numeric vector, and the output for 'charVector' is displayed as a character vector.

```
E:/VITAP/19BCE7048/Semester_4/Foundation for Data Analytics/LAB/LAB1/
> # Q1. Declare and define vectors of numeric class and character class.
>
> numVector = c(5.04, -1.1, 3, 8.22, -0.7, 9)
> numVector
[1] 5.04 -1.10 3.00 8.22 -0.70 9.00
> charVector = c("a","vitap","cse","data","ss")
> charVector
[1] "a"      "vitap" "cse"   "data"  "ss"
> |
```

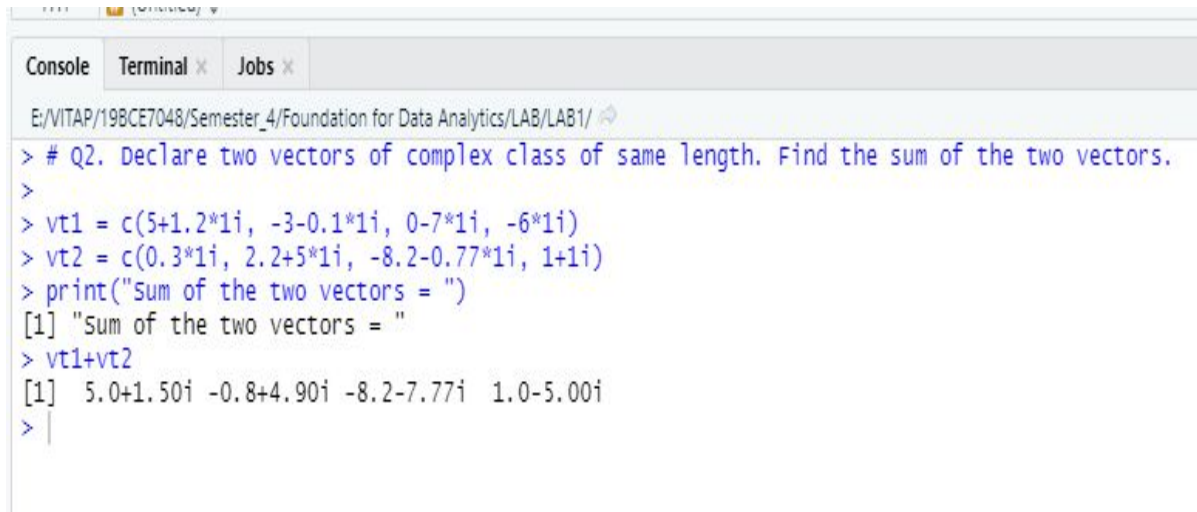
**Q2. Declare two vectors of complex class of same length. Find the sum of the two vectors.**

```
> vt1 = c(5+1.2*i, -3-0.1*i, 0-7*i, -6*i)
```

```
> vt2 = c(0.3*1i, 2.2+5*1i, -8.2-0.77*1i, 1+1i)
```

```
> print("Sum of the two vectors = ")
```

```
> vt1+vt2
```



The screenshot shows a R console window with the following content:

```
E:/VITAP/19BCE7048/Semester_4/Foundation for Data Analytics/LAB/LAB1/
> # Q2. Declare two vectors of complex class of same length. Find the sum of the two vectors.
>
> vt1 = c(5+1.2*1i, -3-0.1*1i, 0-7*1i, -6*1i)
> vt2 = c(0.3*1i, 2.2+5*1i, -8.2-0.77*1i, 1+1i)
> print("Sum of the two vectors = ")
[1] "Sum of the two vectors = "
> vt1+vt2
[1] 5.0+1.50i -0.8+4.90i -8.2-7.77i 1.0-5.00i
>
```

**Q3. Declare two vectors of numeric class of same length. Find the sum of the two vectors and assign to another vector. Find the average of the resultant vector.**

```
> vect1 = c(5.04, -1.1, 3, -0.7, 9)
```

```
> vect2 = c(-1, -0.33, 2.26, 7, -3.1)
```

```
> vect3 = vect1+vect2
```

```
> print("Sum of the two vectors = ")
```

```
> vect3
```

```
> avgvect3 = sum(vect3)/length(vect3)
```

```
> print(paste("Average of resultant vector = ", avgvect3))
```

```

>
> vect1 = c(5.04, -1.1, 3, -0.7, 9)
> vect2 = c(-1, -0.33, 2.26, 7, -3.1)
>
> vect3 = vect1+vect2
> print("Sum of the two vectors = ")
[1] "Sum of the two vectors = "
> vect3
[1] 4.04 -1.43 5.26 6.30 5.90
>
> avgvect3 = sum(vect3)/length(vect3)
> print(paste("Average of resultant vector = ", avgvect3))
[1] "Average of resultant vector = 4.014"
>

```

**Q4. Declare and define vectors of integer and numeric class. Find the mean, median, mod, variance and standard deviation for both the classes separately.**

```

> intVector = c(5L, -2L, 3L, 5L, -8L, 5L, 2L, 9L, 5L)
> intVector
> print(paste("Mean = ", mean(intVector)))
> print(paste("Mode = ", mfv(intVector)))
> print(paste("Median = ", median(intVector)))
> print(paste("Variance = ", var(intVector)))
> print(paste("Standard Deviation = ", sqrt(var(intVector))))

```

```

<
> intVector = c(5L, -2L, 3L, 5L, -8L, 5L, 2L, 9L, 5L)
> intVector
[1] 5 -2 3 5 -8 5 2 9 5
> print(paste("Mean = ", mean(intVector)))
[1] "Mean = 2.666666666666667"
> print(paste("Mode = ", mfv(intVector)))
[1] "Mode = 5"
> print(paste("Median = ", median(intVector)))
[1] "Median = 5"
> print(paste("Variance = ", var(intVector)))
[1] "Variance = 24.75"
> print(paste("Standard Deviation = ", sqrt(var(intVector))))
[1] "Standard Deviation = 4.9749371855331"
>

```

```

> numVector = c(3, 5.04, -1.1, 3, 8.22, 3, -0.7, 9, 3)
> numVector
> print(paste("Mean = ", mean(numVector)))
> print(paste("Mode = ", mfv(numVector)))
> print(paste("Median = ", median(numVector)))
> print(paste("Variance = ", var(numVector)))
> print(paste("Standard Deviation = ", sqrt(var(numVector))))

```

```

<
> numVector = c(3, 5.04, -1.1, 3, 8.22, 3, -0.7, 9, 3)
> numVector
[1] 3.00 5.04 -1.10 3.00 8.22 3.00 -0.70 9.00 3.00
> print(paste("Mean = ", mean(numVector)))
[1] "Mean = 3.606666666666667"
> print(paste("Mode = ", mfv(numVector)))
[1] "Mode = 3"
> print(paste("Median = ", median(numVector)))
[1] "Median = 3"
> print(paste("Variance = ", var(numVector)))
[1] "Variance = 11.8247"
> print(paste("Standard Deviation = ", sqrt(var(numVector))))
[1] "Standard Deviation = 3.4387061520287"
> |

```