Demonstrate-the-concepts-on-Vectors-and-DataFrame-R

Harini G

```
#Name: Harini G

#1.Create a vector different data types(Logical, Numeric, Integer,
Complex,Character) and display their class and typeof  each datatype.
v1=c(TRUE,FALSE,TRUE)
class(v1)

## [1] "logical"

typeof(v1)

## [1] "logical"

v2=c(2.89,8.6,9.7)
class(v2)

## [1] "numeric"

typeof(v2)

## [1] "double"

v3=c(88L,91L,108L)
class(v3)

## [1] "integer"

typeof(v3)

## [1] "integer"

v4=c(2+3i,5+68i)
class(v4)

## [1] "complex"

typeof(v4)

## [1] "complex"

v5=c("Hello","Hi","Welcome")
class(v5)

## [1] "character"

typeof(v5)

## [1] "character"
```

```r
#2. Get and print the current working directory
getwd()
```

```
## [1] "D:/Harini(christ unniversity)/2nd sem subjects/R"
```

```r
setwd("D:/Harini(christ unniversity)/2nd sem subjects/R")
getwd()
```

```
## [1] "D:/Harini(christ unniversity)/2nd sem subjects/R"
```

```r
#5.Read the csv file in your current working directory
readfile=read.csv("D:/Harini(christ unniversity)/2nd sem
subjects/R/student.csv")
readfile
```

```
##   S.No   Sname Degree Total.marks Grade
## 1    1  Andrew     UG         435     B
## 2    2  Babita     UG         210     D
## 3    3   Cathy     UG         459     A
## 4    4 Dominic     UG         542     A
## 5    5    Elsa     PG         520     B
## 6    6  Franko     PG         320     C
## 7    7  Gorang     UG         205    D
## 8    8  Harsha     PG         325     C
```

```r
#6.Check whether your  CSV file is a dataframe and also check the number of
rows and columns
class(readfile)
```

```
## [1] "data.frame"
```

```r
nrow(readfile)
```

```
## [1] 8
```

```r
ncol(readfile)
```

```
## [1] 5
```

```r
#7. Apply all the functions sum(),mean(),sqrt()  related to dataframe
sum(readfile$Total.marks)
```

```
## [1] 3016
```

```r
mean(readfile$Total.marks)
```

```
## [1] 377
```

```r
sqrt(readfile$Total.marks)
```

```
## [1] 20.85665 14.49138 21.42429 23.28089 22.80351 17.88854 14.31782
18.02776
```

```r
#8.Get the highest marks from the data frame
highest_marks=max(readfile$Total.marks)
highest_marks
```

```
## [1] 542
```

```r
#9. Get the details of the person with highest marks
student_detail=subset(readfile,Total.marks==highest_marks)
student_detail
```

```
##   S.No   Sname Degree Total.marks Grade
## 4    4 Dominic     UG         542     A
```

```r
#10. Get all the students in UG degree whose marks is greater than 300
student_detail1=subset(readfile,Total.marks>300 & Degree=="UG")
student_detail1
```

```
##   S.No   Sname Degree Total.marks Grade
## 1    1  Andrew     UG         435     B
## 3    3   Cathy     UG         459     A
## 4    4 Dominic     UG         542     A
```

```r
#11. Add one more vector  Date_ of_ Joining(DOJ)  to the already existing
dataframe
year=c(2018,2017,2016,2019,2018,2017,2020,2019)
readfile$Date_of_Joining=year
readfile
```

```
##   S.No   Sname Degree Total.marks Grade Date_of_Joining
## 1    1  Andrew     UG         435     B            2018
## 2    2  Babita     UG         210     D            2017
## 3    3   Cathy     UG         459     A            2016
## 4    4 Dominic     UG         542     A            2019
## 5    5    Elsa     PG         520     B            2018
## 6    6  Franko     PG         320     C            2017
## 7    7  Gorang     UG         205    D             2020
## 8    8  Harsha     PG         325     C            2019
```

```r
#12. Get the details of the students who have joined after 2017
students_joined_after_2017=subset(readfile,Date_of_Joining>2017)
students_joined_after_2017
```

```
##   S.No   Sname Degree Total.marks Grade Date_of_Joining
## 1    1  Andrew     UG         435     B            2018
## 4    4 Dominic     UG         542     A            2019
## 5    5    Elsa     PG         520     B            2018
## 7    7  Gorang     UG         205    D             2020
## 8    8  Harsha     PG         325     C            2019
```

```r
#13. Write the filtered data into a new file
write.csv(students_joined_after_2017,"output.csv")
```

```
newdata=read.csv("output.csv")
newdata
```

```
##   X S.No   Sname Degree Total.marks Grade Date_of_Joining
## 1 1    1  Andrew     UG         435     B             2018
## 2 4    4 Dominic     UG         542     A             2019
## 3 5    5    Elsa     PG         520     B             2018
## 4 7    7  Gorang     UG         205    D              2020
## 5 8    8  Harsha     PG         325     C             2019
```