Lab2.R

rstudio-user

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```
#1. Create a vector different data types(Logical, Numeric, Integer,
#Complex, Character) and display their class and type of each datatype.
a <- 50
typeof(a)
```

```
## [1] "double"
```

```
class(a)
```

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

```
a <- 50L
typeof(a)
```

```
## [1] "integer"
```

```
class(a)
```

```
## [1] "integer"
```

```
a <- "Harsh"
typeof(a)
```

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

```
class(a)
```

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

```
a <- 'A'
typeof(a)
```

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

```
class(a)
```

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

```
a <- 5i+6
typeof(a)
```

```
## [1] "complex"
```

```
class(a)
```

```
## [1] "complex"
```

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

```
## [1] "/cloud/project"
```

```r
#3. Dataframes
#Done.


#4. Save file in current working directory
#Done.


#5. Read the csv file in your current working directory
data <- read.csv('students.csv')
print(data)
```

```
##   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(data)
```

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

```r
print(paste("Number of rows: ", dim(data)[1]))
```

```
## [1] "Number of rows:  8"
```

```r
print(paste("Number of columns: ", dim(data)[2]))
```

```
## [1] "Number of columns:  5"
```

```r
#7. Apply all the functions sum(),mean(),sqrt()  related to dataframe
print(paste('Sum of marks: ', sum(data['Total.marks'])))
```

```
## [1] "Sum of marks:  3016"
```

```r
print(paste('Average of marks: ', mean(data['Total.marks'])))
```

```
## Warning in mean.default(data["Total.marks"]): argument is not numeric or
## logical: returning NA
```

```
## [1] "Average of marks:  NA"
```

```r
print(paste('Square root of marks: ', sqrt(data['Total.marks'])))
```

```
## [1] "Square root of marks:  c(20.8566536146142, 14.4913767461894, 21.4242852856285, 23.2808934536456
```

```r
#8. Get the highest marks from the data frame
print(paste("Highest marks from dataframe: ", max(data["Total.marks"])))
```

```
## [1] "Highest marks from dataframe:  542"
```

```r
#9. Get the details of the person with highest marks
data[data["Total.marks"]==max(data["Total.marks"])]
```

```
## [1] "4"       "Dominic" "UG"      "542"     "A"
```

```r
#10. Get all the students in UG degree whose marks is greater than 300
data[data["Degree"]=="UG" & data["Total.marks"]>300,]
```

```
##   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
data=cbind(data, date_of_joining = as.Date(c("2003-10-24","2018-10-24","2004-10-24","2005-10-24","2019-
data
```

```
##   S.No   Sname Degree Total.marks Grade date_of_joining
## 1    1  Andrew     UG         435     B      2003-10-24
## 2    2  Babita     UG         210     D      2018-10-24
## 3    3   Cathy     UG         459     A      2004-10-24
## 4    4 Dominic     UG         542     A      2005-10-24
## 5    5    Elsa     PG         520     B      2019-10-24
## 6    6  Franko     PG         320     C      2017-10-24
## 7    7  Gorang     UG         205     D      2005-10-24
## 8    8  Harsha     PG         325     C      2007-10-24
```

```r
class(data$date_of_joining)
```

```
## [1] "Date"
```

```r
#12. Get the details of the students who have joined after 2017
datefilter = data[data$date_of_joining>"2017-01-01",]
datefilter
```

```
##   S.No  Sname Degree Total.marks Grade date_of_joining
## 2    2 Babita     UG         210     D      2018-10-24
## 5    5   Elsa     PG         520     B      2019-10-24
## 6    6 Franko     PG         320     C      2017-10-24
```

```r
#13. Write the filtered data into a new file
write.table(datefilter, "filtered.txt", sep=",", row.names=TRUE, col.names=NA)
```