Lab2.R

HP

2021-01-25

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

#Logical
a = 5
b = 10
c = a > b
print(c)

## [1] FALSE

print(class(c))

## [1] "logical"

print(typeof(c))

## [1] "logical"

#Numeric
a = 50
print(a)

## [1] 50

print(class(a))

## [1] "numeric"

print(typeof(a))

## [1] "double"

#Integer
a = 25L
print(a)

## [1] 25

print(class(a))

## [1] "integer"

print(typeof(a))
```

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

```
#Complex
a = 2 + 4i
print(a)
```

```
## [1] 2+4i
```

```
print(class(a))
```

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

```
print(typeof(a))
```

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

```
#Character
a = "Harshita"
print(a)
```

```
## [1] "Harshita"
```

```
print(class(a))
```

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

```
print(typeof(a))
```

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

```
#2.Get and print the current working directory
setwd("D:/MDS/Semester 2/R Programming/R Lab/Lab 2")
getwd()
```

```
## [1] "D:/MDS/Semester 2/R Programming/R Lab/Lab 2"
```

```
#3.Create this file using windows notepad by copying and pasting this data.
Save the file as student.csv
#4.Save this file in the  current working directory

#5.Create this file using windows notepad by copying and pasting this data.
Save the file as student.csv
student_data <- read.csv("student.csv")
print(student_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
```

```
#6.Check whether your CSV file is a dataframe and also check the number of
rows and columns
print(is.data.frame(student_data))
```

```
## [1] TRUE
```

```
print(ncol(student_data))
```

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

```
print(nrow(student_data))
```

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

```
#7.Apply all the functions sum(),mean(),sqrt() related to dataframe

#sum()
totalMarks = sum(student_data$Total.marks)
print(totalMarks)
```

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

```
#mean()
avgMarks = mean(student_data$Total.marks)
print(avgMarks)
```

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

```
#sqrt()
sqrtMarks = sqrt(student_data$Total.marks)
print(sqrtMarks)
```

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

```
#8.Get the highest marks from the data frame
maxMarks = max(student_data$Total.marks)
print(maxMarks)
```

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

```
#9. Get the details of the person with highest marks
maxMarksDet <- subset(student_data, Total.marks == max(Total.marks))
print(maxMarksDet)
```

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

```
#10.Get all the students in UG degree whose marks is greater than 300
marksDet <- subset(student_data, Total.marks > 300)
print(marksDet)
```

```
##   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
## 5    5    Elsa     PG         520     B
## 6    6  Franko     PG         320     C
## 8    8  Harsha     PG         325     C
```

```
#11.Add one more vector  Date_ of_ Joining(DOJ) to the already existing
dataframe
student_data$Date_of_Joining <- c(2015, 2013, 2014, 2016, 2107, 2019, 2020,
2018)
print(student_data)
```

```
##   S.No   Sname Degree Total.marks Grade Date_of_Joining
## 1    1  Andrew     UG         435     B            2015
## 2    2  Babita     UG         210     D            2013
## 3    3   Cathy     UG         459     A            2014
## 4    4 Dominic     UG         542     A            2016
## 5    5    Elsa     PG         520     B            2107
## 6    6  Franko     PG         320     C            2019
## 7    7  Gorang     UG         205    D             2020
## 8    8  Harsha     PG         325     C            2018
```

```
#12.Get the details of the students who have joined after 2017
dojDet <- subset(student_data, Date_of_Joining > 2017)
print(dojDet)
```

```
##   S.No  Sname Degree Total.marks Grade Date_of_Joining
## 5    5   Elsa     PG         520     B            2107
## 6    6 Franko     PG         320     C            2019
## 7    7 Gorang     UG         205    D             2020
## 8    8 Harsha     PG         325     C            2018
```

```
#13.Write the filtered data into a new file
write.csv(dojDet,"output.csv")
filtered_data <- read.csv("output.csv")
print(filtered_data)
```

```
##   X S.No  Sname Degree Total.marks Grade Date_of_Joining
## 1 5    5   Elsa     PG         520     B            2107
## 2 6    6 Franko     PG         320     C            2019
## 3 7    7 Gorang     UG         205    D             2020
## 4 8    8 Harsha     PG         325     C            2018
```