Q.2 Perform the following operations in R using 'dplyr' (20)
1. Create Student.csv file with fields (rollno, name, gender, class, Tmarks)
(note:- Total marks out of 1000) Read the file in R
2. List the student's who have scored less than 800 marks.
3. List the highest marks for each class.
4. Plot the scatter plot to represent class wise highest marks.
5. List the Fail students for each class.
solution

install.packages("dplyr"))

library(dplyr)

install.packages("tidyverse")

library(tidyverse)

data<-read.csv("C:/data science/student.csv",header=TRUE)

data

| | Rollno | Name | Gender | class | Tmarks |
|---|---|---|---|---|---|
| 1 | 1 | Aarti | Female | FYCS | 985 |
| 2 | 12 | Bhavika | Female | FYCS | 900 |
| 3 | 2 | Yash | Male | SYCS | 750 |
| 4 | 34 | Ayesha | Female | FYCS | 839 |
| 5 | 5 | Shaziya | Female | TYCS | 689 |
| 6 | 6 | Fatema | Female | FYCS | 940 |
| 7 | 3 | Pramod | Male | TYCS | 900 |
| 8 | 13 | Neha | Female | SYCS | 875 |
| 9 | 11 | Jameel | Male | TYCS | 820 |

data1<-select(data,Rollno,Tmarks)

data1

| | Rollno | Tmarks |
|---|---|---|
| 1 | 1 | 985 |
| 2 | 12 | 900 |
| 3 | 2 | 750 |
| 4 | 34 | 839 |
| 5 | 5 | 689 |
| 6 | 6 | 940 |
| 7 | 3 | 900 |
| 8 | 13 | 875 |
| 9 | 11 | 820 |

#List the student's who have scored less than 800 marks.

data2<-filter(data,Tmarks<800)

data2

```
     Rollno    Name Gender class Tmarks
1    2         Yash   Male  SYCS   750
2    5         Shaziya Female  TYCS   689
```

#List the highest marks for each class.

data3<-group_by(data,class)%>%summarise(max(Tmarks))
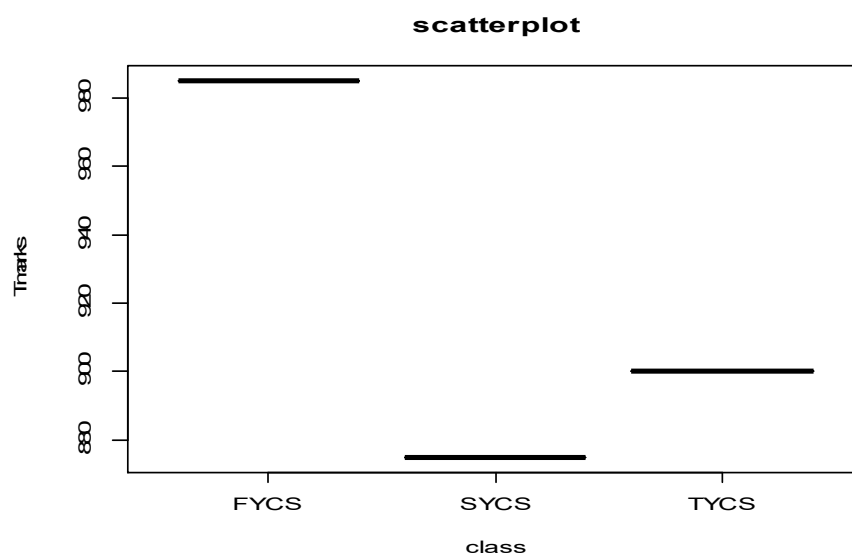
data3

A tibble: 3 x 2

```
  class `max(Tmarks)`
  <fct>      <int>
1 FYCS        985
2 SYCS        875
3 TYCS        900
```

#Plot the scatter plot to represent class wise highest marks.

library("ggplot2")

plot(data3,main="scatterplot", xlab = "class", ylab ="Tmarks")



#showing result pass or fail by adding a new column

data4<-mutate(data,Result=if_else(Tmarks < 800, "Fail", "Pass"))

```
> data4
  Rollno   Name Gender class Tmarks Result
1    1      Aarti Female  FYCS   985   Pass
2   12     Bhavika Female  FYCS   900   Pass
3    2      Yash  Male  SYCS   750   Fail
4   34      Ayesha Female  FYCS   839   Pass
5    5      Shaziya Female  TYCS   689   Fail
6    6      Fatema Female  FYCS   940   Pass
7    3      Pramod  Male  TYCS   900   Pass
8   13      Neha Female  SYCS   875   Pass
9   11      Jameel  Male  TYCS   820   Pass
```

#List the Fail students for each class.

data5<-filter(data4, Result=="Fail")

data5

```
   Rollno   Name   Gender  class  Tmarks   Result
1    2      Yash     Male   SYCS    750     Fail
2    5      Shaziya  Female TYCS    689     Fail
```