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 more than 750 marks in FYCS.
3. List the Highest and lowest marks for each class
4. List the student's rollno, name, class, totalmarks & percentage in descending order of percentage
5. List the no of students and average marks for each class.

Note: Create a file in excel sheet, while saving select csv comma delimited and give file name. copy path and paste in r. change '\' to '/'.

solution

1) library(tidyverse)

library(dplyr)

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

data

	Rollno	Name	Gender	class	Tmarks
1	1	Aarti	Female	FYCS	500
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	550
8	13	Neha	Female	SYCS	450
9	11	Jameel	Male	TYCS	820

2) #List the student's who have scored more than 750 marks in FYCS.

data2<-filter(data,Tmarks>750&class=="FYCS")

data2

	Rollno	Name	Gender	class	Tmarks
1	12	Bhavika	Female	FYCS	900
2	34	Ayesha	Female	FYCS	839
3	6	Fatema	Female	FYCS	940

3) #List the Highest and lowest marks for each class

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

A tibble: 3 x 3

	class	`max(Tmarks)`	`min(Tmarks)`
	<fct>	<int>	<int>
1	FYCS	940	500
2	SYCS	750	450
3	TYCS	820	550

4) #List the student's rollno, name, class, totalmarks & percentage in descending order of percentage

```
data4<-select(data,Rollno,Name,class,Tmarks)
data4
```

	Rollno	Name	class	Tmarks
1	1	Aarti	FYCS	500
2	12	Bhavika	FYCS	900
3	2	Yash	SYCS	750
4	34	Ayesha	FYCS	839
5	5	Shaziya	TYCS	689
6	6	Fatema	FYCS	940
7	3	Pramod	TYCS	550
8	13	Neha	SYCS	450
9	11	Jameel	TYCS	820

```
mutate(data4,Percentage=Tmarks/1000*100)%>% arrange(desc(Percentage))
```

	Rollno	Name	class	Tmarks	Percentage

1	6	Fatema	FYCS	940	94.0
2	12	Bhavika	FYCS	900	90.0
3	34	Ayesha	FYCS	839	83.9
4	11	Jameel	TYCS	820	82.0
5	2	Yash	SYCS	750	75.0
6	5	Shaziya	TYCS	689	68.9
7	3	Pramod	TYCS	550	55.0
8	1	Aarti	FYCS	500	50.0
9	13	Neha	SYCS	450	45.0

5) # List the no of students and average marks for each class.

```
group_by(data4, class) %>% summarise(count = n(),Mean = mean(Tmarks, na.rm=TRUE))
# A tibble: 3 x 3
  Class  count  Mean
  <fct>  <int>  <dbl>
1 FYCS     4     795.
2 SYCS     2     600
3 TYCS     3     686.
```