```
df <- read.csv("/home/arjunchauhan/Code/R-Programming/testfile3.csv")
df
```

```
##           Name Semester Subject.1.Marks Subject.2.Marks Subject.3.Marks
## 1     John Doe        3              77              67              88
## 2      Sam Ray        3              66              88              76
## 3     Roshan M        3              54              99              80
## 4  Rohit Mehta        3              67              67              79
## 5  Andrew Dove        5              78              89              81
## 6     Gary Sam        3              89              56              79
## 7  Manohar Raj        3              92              89              90
## 8  Krish Kumar        5              78              87              95
## 9  Naren Singh        5              81              78              89
## 10 Jilshan Raj        5              65              79              93
##    Subject.4.Marks Subject.5.Marks Active.Student Date.of.Birth
## 1               91              86           TRUE    25-07-1990
## 2               89              91           TRUE    15-07-1991
## 3               76              81           TRUE    29-01-1990
## 4               98              90           TRUE    25-07-1990
## 5               85              87           TRUE    05-11-1990
## 6               82              85           TRUE    25-07-1991
## 7               91              96           TRUE    15-07-1990
## 8               86              91          FALSE    18-02-1990
## 9               87              90           TRUE    23-12-1990
## 10              86              89          FALSE    14-07-1991
```

```
dataF <- data.frame(sub1 = df[,3],
                    sub2 = df[,4],
                    sub3 = df[,5],
                    sub4 = df[,6],
                    sub5 = df[,7]
                    )
total <-rowSums(dataF)
df$TotalMarks <- total

df
```

```
##           Name Semester Subject.1.Marks Subject.2.Marks Subject.3.Marks
## 1     John Doe        3              77              67              88
## 2      Sam Ray        3              66              88              76
## 3     Roshan M        3              54              99              80
## 4  Rohit Mehta        3              67              67              79
## 5  Andrew Dove        5              78              89              81
## 6     Gary Sam        3              89              56              79
## 7  Manohar Raj        3              92              89              90
## 8  Krish Kumar        5              78              87              95
## 9  Naren Singh        5              81              78              89
## 10 Jilshan Raj        5              65              79              93
##    Subject.4.Marks Subject.5.Marks Active.Student Date.of.Birth TotalMarks
## 1               91              86           TRUE    25-07-1990        409
## 2               89              91           TRUE    15-07-1991        410
## 3               76              81           TRUE    29-01-1990        390
## 4               98              90           TRUE    25-07-1990        401
## 5               85              87           TRUE    05-11-1990        420
## 6               82              85           TRUE    25-07-1991        391
## 7               91              96           TRUE    15-07-1990        458
## 8               86              91          FALSE    18-02-1990        437
## 9               87              90           TRUE    23-12-1990        425
## 10              86              89          FALSE    14-07-1991        412
```

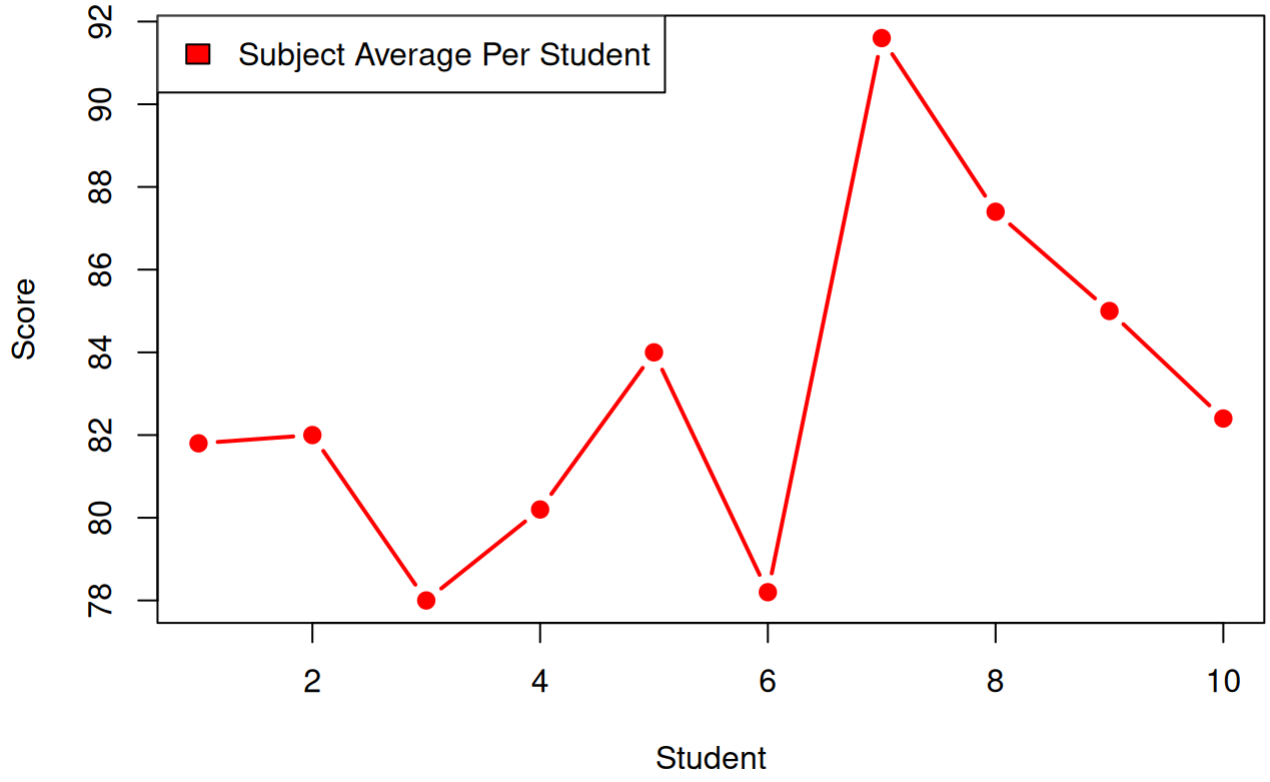
```
library(matrixStats)
avg_Marks <- rowMeans(dataF)
df$AvgMarks <- avg_Marks
row_median = rowMedians(as.matrix(dataF))
df$StudentScore_Median = row_median

avg_TotalMarks <- mean(df[,10])
avg_TotalMarks
```

```
## [1] 415.3
```

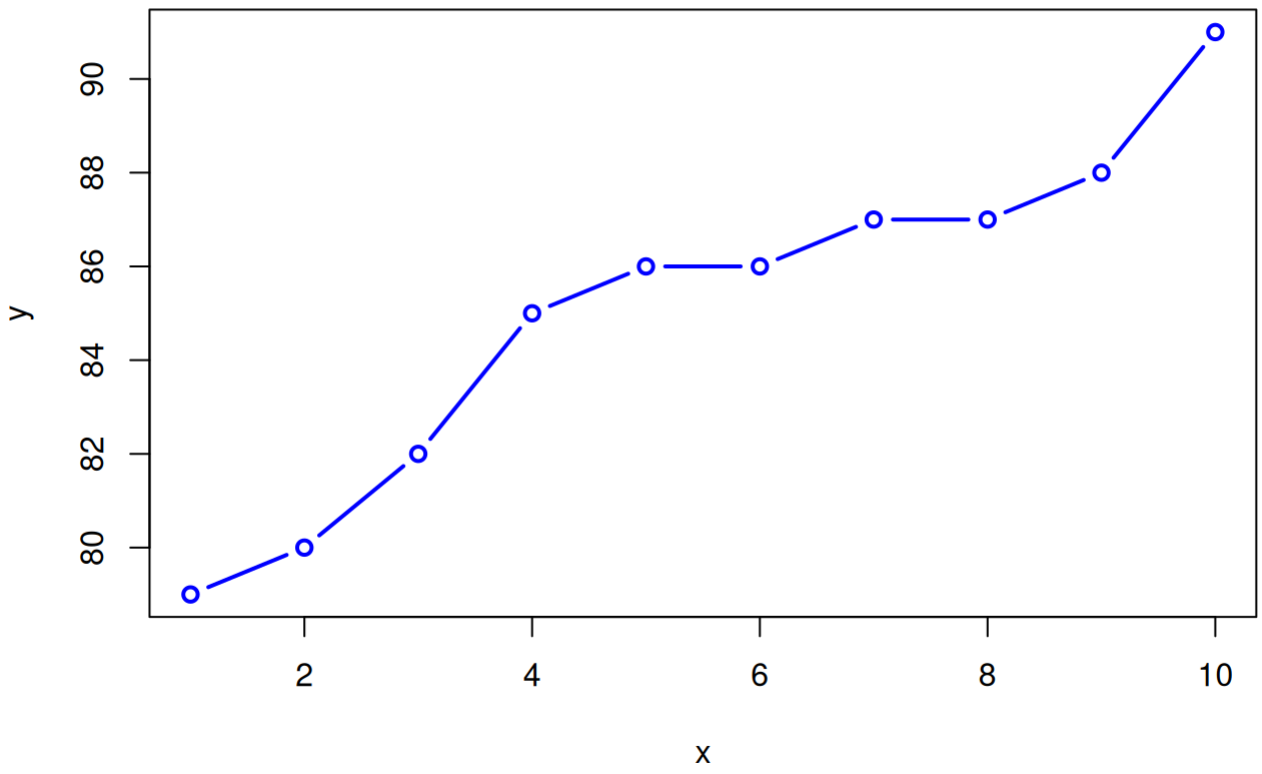
```
df
```

```
##           Name Semester Subject.1.Marks Subject.2.Marks Subject.3.Marks
## 1     John Doe        3              77              67              88
## 2      Sam Ray        3              66              88              76
## 3     Roshan M        3              54              99              80
## 4  Rohit Mehta        3              67              67              79
## 5  Andrew Dove        5              78              89              81
## 6     Gary Sam        3              89              56              79
## 7  Manohar Raj        3              92              89              90
## 8  Krish Kumar        5              78              87              95
## 9  Naren Singh        5              81              78              89
## 10 Jilshan Raj        5              65              79              93
##    Subject.4.Marks Subject.5.Marks Active.Student Date.of.Birth TotalMarks
## 1               91              86           TRUE    25-07-1990        409
## 2               89              91           TRUE    15-07-1991        410
## 3               76              81           TRUE    29-01-1990        390
## 4               98              90           TRUE    25-07-1990        401
## 5               85              87           TRUE    05-11-1990        420
## 6               82              85           TRUE    25-07-1991        391
## 7               91              96           TRUE    15-07-1990        458
## 8               86              91          FALSE    18-02-1990        437
## 9               87              90           TRUE    23-12-1990        425
## 10              86              89          FALSE    14-07-1991        412
##    AvgMarks StudentScore_Median
## 1      81.8                 86
## 2      82.0                 88
## 3      78.0                 80
## 4      80.2                 79
## 5      84.0                 85
## 6      78.2                 82
## 7      91.6                 91
## 8      87.4                 87
## 9      85.0                 87
## 10     82.4                 86
```

```
x <- c(1:10)
plot(x, df$AvgMarks, type = "b", xlab = "Student", ylab = "Score", pch = 19, col = "Red"
, lwd= 2.0)
legend("topleft", legend=c("Subject Average Per Student"), fill = c("Red"))
```




```
df$StudentScore_Median = apply(df[,3:7],1, median, na.rm = TRUE)
y <- sort(df$StudentScore_Median, decreasing = FALSE)
plot(x, y, type = "b", pch = 21, col = "Blue", lwd = 2.0)
```




```
df[which(df$AvgMarks > 90), ]
```

```
##          Name Semester Subject.1.Marks Subject.2.Marks Subject.3.Marks
## 7 Manohar Raj        3              92              89              90
##   Subject.4.Marks Subject.5.Marks Active.Student Date.of.Birth TotalMarks
## 7              91              96           TRUE    15-07-1990        458
##   AvgMarks StudentScore_Median
## 7     91.6                  91
```

```
TempDf = subset(df, df$Date.of.Birth > "1-07-1990")
TempDf
```

```
##           Name Semester Subject.1.Marks Subject.2.Marks Subject.3.Marks
## 1     John Doe        3              77              67              88
## 2      Sam Ray        3              66              88              76
## 3     Roshan M        3              54              99              80
## 4  Rohit Mehta        3              67              67              79
## 6     Gary Sam        3              89              56              79
## 7  Manohar Raj        3              92              89              90
## 8  Krish Kumar        5              78              87              95
## 9  Naren Singh        5              81              78              89
## 10 Jilshan Raj        5              65              79              93
##    Subject.4.Marks Subject.5.Marks Active.Student Date.of.Birth TotalMarks
## 1               91              86           TRUE    25-07-1990        409
## 2               89              91           TRUE    15-07-1991        410
## 3               76              81           TRUE    29-01-1990        390
## 4               98              90           TRUE    25-07-1990        401
## 6               82              85           TRUE    25-07-1991        391
## 7               91              96           TRUE    15-07-1990        458
## 8               86              91          FALSE    18-02-1990        437
## 9               87              90           TRUE    23-12-1990        425
## 10              86              89          FALSE    14-07-1991        412
##    AvgMarks StudentScore_Median
## 1      81.8                  86
## 2      82.0                  88
## 3      78.0                  80
## 4      80.2                  79
## 6      78.2                  82
## 7      91.6                  91
## 8      87.4                  87
## 9      85.0                  87
## 10     82.4                  86
```

```
IQR(df$TotalMarks)
```

```
## [1] 20.75
```

```
sem3 <- subset(df , df$Semester == 3)
sem5 <- subset(df, df$Semester ==5)
```

```
avgMarks3 <- mean(sem3$AvgMarks)
avgMarks5 <- mean(sem5$AvgMarks)
avgMarks3
```

```
## [1] 81.96667
```

```
avgMarks5
```

```
## [1] 84.7
```

```
write.csv(df,"/home/arjunchauhan/Code/R-Programming/testfile.csv", row.names = FALSE)
```

```
df
```

```
##           Name Semester Subject.1.Marks Subject.2.Marks Subject.3.Marks
## 1     John Doe        3              77              67              88
## 2      Sam Ray        3              66              88              76
## 3     Roshan M        3              54              99              80
## 4  Rohit Mehta        3              67              67              79
## 5  Andrew Dove        5              78              89              81
## 6     Gary Sam        3              89              56              79
## 7  Manohar Raj        3              92              89              90
## 8  Krish Kumar        5              78              87              95
## 9  Naren Singh        5              81              78              89
## 10 Jilshan Raj        5              65              79              93
##    Subject.4.Marks Subject.5.Marks Active.Student Date.of.Birth TotalMarks
## 1               91              86           TRUE    25-07-1990        409
## 2               89              91           TRUE    15-07-1991        410
## 3               76              81           TRUE    29-01-1990        390
## 4               98              90           TRUE    25-07-1990        401
## 5               85              87           TRUE    05-11-1990        420
## 6               82              85           TRUE    25-07-1991        391
## 7               91              96           TRUE    15-07-1990        458
## 8               86              91          FALSE    18-02-1990        437
## 9               87              90           TRUE    23-12-1990        425
## 10              86              89          FALSE    14-07-1991        412
##    AvgMarks StudentScore_Median
## 1      81.8                  86
## 2      82.0                  88
## 3      78.0                  80
## 4      80.2                  79
## 5      84.0                  85
## 6      78.2                  82
## 7      91.6                  91
## 8      87.4                  87
## 9      85.0                  87
## 10     82.4                  86
```