

SHETH L.U.J. & SIR M.V. COLLEGE OF SCIENCE
SUBJECT - Data Analysis with R / SAS / SPSS

Aim :- Creating graphical reports using ,ggplot2 (R).

Output :

```
RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Source

Console Terminal x Background Jobs x

R 4.5.2 ~ /

> diamonds <- read.csv("diamonds.csv")
> str(diamonds)
'data.frame': 53940 obs. of 10 variables:
 $ carat : num 0.23 0.21 0.23 0.29 0.31 0.24 0.24 0.26 0.22 0.23 ...
 $ cut : chr "Ideal" "Premium" "Good" "Premium" ...
 $ color : chr "E" "E" "E" "I" ...
 $ clarity: chr "SI2" "SI1" "VS1" "VS2" ...
 $ depth : num 61.5 59.8 56.9 62.4 63.3 62.8 62.3 61.9 65.1 59.4 ...
 $ table : num 55 61 65 58 58 57 57 55 61 61 ...
 $ x : num 3.95 3.89 4.05 4.2 4.34 3.94 3.95 4.07 3.87 4 ...
 $ y : num 3.98 3.84 4.07 4.23 4.35 3.9 3.98 4.11 3.78 4.05 ...
 $ z : num 2.43 2.31 2.31 2.63 2.75 2.48 2.47 2.53 2.49 2.39 ...
 $ price : int 326 326 327 334 335 336 336 337 338 ...

> summary(diamonds)
      carat      cut      color      clarity
Min.   :0.2000   Length:53940   Length:53940   Length:53940
1st Qu.:0.4000   Class :character   Class :character   Class :character
Median :0.7000   Mode  :character   Mode  :character   Mode  :character
Mean    :0.7979
3rd Qu.:1.0400
Max.     :5.0100

      depth      table      x      y
Min.   :43.00   Min.   :43.00   Min.   : 0.000   Min.   : 0.000
1st Qu.:61.00   1st Qu.:56.00   1st Qu.: 4.710   1st Qu.: 4.720
Median :61.80   Median :57.00   Median : 5.700   Median : 5.710
Mean    :61.75   Mean    :57.46   Mean    : 5.731   Mean    : 5.735
3rd Qu.:62.50   3rd Qu.:59.00   3rd Qu.: 6.540   3rd Qu.: 6.540
Max.     :73.00   Max.     :95.00   Max.     :10.740   Max.     :58.900

      price
Min.   : 0.000
1st Qu.: 910
Median :3330
Mean   :3539
3rd Qu.:4040
Max.   :31800
Min.   : 326
1st Qu.: 950
Median :2401
Mean   :3933
3rd Qu.:5324
Max.   :18823
```

SHETH L.U.J. & SIR M.V. COLLEGE OF SCIENCE
SUBJECT - Data Analysis with R / SAS / SPSS

```

RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function Addins

Source

Console Terminal x Background Jobs x

R 4.5.2 ~
$ z : num 2.43 2.31 2.31 2.63 2.75 2.48 2.47 2.53 2.49 2.39 ...
$ price : int 326 326 327 334 335 336 336 337 337 338 ...
> summary(diamonds)
      carat      cut      color      clarity
Min.   :0.2000   Length:53940   Length:53940   Length:53940
1st Qu.:0.4000   Class :character   Class :character   Class :character
Median :0.7000   Mode  :character   Mode  :character   Mode  :character
Mean   :0.7979
3rd Qu.:1.0400
Max.   :5.0100

      depth      table      x      y
Min.   :43.00   Min.   :43.00   Min.   : 0.000   Min.   : 0.000
1st Qu.:61.00   1st Qu.:56.00   1st Qu.: 4.710   1st Qu.: 4.720
Median :61.80   Median :57.00   Median : 5.735   Median : 5.710
Mean   :61.75   Mean   :57.46   Mean   : 5.731   Mean   : 5.735
3rd Qu.:62.50   3rd Qu.:59.00   3rd Qu.: 6.540   3rd Qu.: 6.540
Max.   :79.00   Max.   :95.00   Max.   :10.400   Max.   :58.900

      z      price
Min.   : 0.000   Min.   : 326
1st Qu.: 2.910   1st Qu.: 950
Median : 3.530   Median : 2401
Mean   : 3.539   Mean   : 3933
3rd Qu.: 4.040   3rd Qu.: 5324
Max.   :31.800   Max.   :18821

> head(diamonds)
  carat cut color clarity depth table x y z price
1  0.23 Ideal E SI2 61.5 55 3.95 3.98 2.43 326
2  0.21 Premium I SI1 59.8 61 3.89 3.84 2.31 326
3  0.23 Good E VS1 56.9 65 4.05 4.07 2.31 327
4  0.29 Premium I VS2 62.4 58 4.20 4.23 2.63 334
5  0.31 Good J SI2 63.3 58 4.34 4.35 2.75 335
6  0.24 Very Good J VVS2 62.8 57 3.94 3.96 2.48 336

> unique(diamonds$cut)
[1] "Ideal" "Premium" "Good" "Very Good" "Fair"

> unique(diamonds$color)
[1] "E" "I" "J" "H" "F" "G" "D"

```

Graph :

SHETH L.U.J. & SIR M.V. COLLEGE OF SCIENCE
SUBJECT - Data Analysis with R / SAS / SPSS

