

SHETH L.U.J. AND SIR M.V. COLLEGE
DATA ANALYSIS WITH SAS/SPSS/R

PRACTICAL NO: 15

AIM: Generating basic summaries using str() or summary() (R).

CODE:

```
1 qualcomm_df <- read.csv("qualcomm_data.csv")
2
3 qualcomm_df$Revenue <- as.numeric(qualcomm_df$Revenue)
4 qualcomm_df$Stock_Price <- as.numeric(qualcomm_df$Stock_Price)
5 qualcomm_df$Market_Share <- as.numeric(qualcomm_df$Market_Share)
6
7 qualcomm_df$Dominant_Market_Pos <- qualcomm_df$Market_Share > 17
8
9 print("~~~ Data Loaded ~~~")
10
11 print("~~~ OUTPUT OF str() ~~~")
12 str(qualcomm_df)
13
14 print("~~~ OUTPUT OF summary() [Before Factor Conversion] ~~~")
15 summary(qualcomm_df)
16
17 qualcomm_df$Year <- as.factor(qualcomm_df$Year)
18
19 print("~~~ OUTPUT OF summary() [After Factor Conversion] ~~~")
20 summary(qualcomm_df$Year)
21
22 avg_revenue <- mean(qualcomm_df$Revenue, na.rm = TRUE)
23 max_stock_price <- max(qualcomm_df$Stock_Price, na.rm = TRUE)
24
25 print(paste("Average Revenue:", avg_revenue))
26 print(paste("Highest Stock Price:", max_stock_price))
```

OUTPUT:

```
> qualcomm_df$Stock_Price <- as.numeric(qualcomm_df$Stock_Price)
> qualcomm_df$Market_Share <- as.numeric(qualcomm_df$Market_Share)
>
> qualcomm_df$Dominant_Market_Pos <- qualcomm_df$Market_Share > 17
>
> print("~~~ Data Loaded ~~~")
[1] "~~~ Data Loaded ~~~"
>
> print("~~~ OUTPUT OF str() ~~~")
[1] "~~~ OUTPUT OF str() ~~~"
> str(qualcomm_df)
'data.frame': 12 obs. of 9 variables:
 $ Year      : chr  "2018" "2019" "2020" "2021" ...
 $ Revenue   : num  22.7 24.3 23.5 33.6 44.2 ...
 $ Net_Income: chr  "5" "4.4" "5.2" "9.04" ...
 $ EPS       : num  3.3 3.1 4.5 7.87 11.36 ...
 $ R.D.Expenses: num  5.5 5.8 6.1 6.5 7.1 NA NA NA NA ...
 $ Profit_Margin: num  22 18.1 22.1 26.9 29.3 NA NA NA NA ...
 $ Stock_Price: num  50 75 130 150 120 NA NA NA NA ...
 $ Market_Share: num  15 16 17 18 20 NA NA NA NA ...
 $ Dominant_Market_Pos: logi  FALSE FALSE FALSE TRUE TRUE NA ...
>
> print("~~~ OUTPUT OF summary() [Before Factor Conversion] ~~~")
[1] "~~~ OUTPUT OF summary() [Before Factor Conversion] ~~~"
> summary(qualcomm_df)
      Year      Revenue      Net_Income      EPS
Length:12      Min.   :22.70      Length:12      Min.   : 3.100
Class:character 1st 40: 22.71 Class:character 1st 40: 3.3000
```

SHETH L.U.J. AND SIR M.V. COLLEGE DATA ANALYSIS WITH SAS/SPSS/R

The image displays two screenshots of the RStudio interface, showing the execution of R code to analyze a dataset named 'qualcomm_data.csv'.

Top Screenshot:

- Code Editor:** The code reads the CSV file, converts the 'Revenue' column to numeric, and performs a summary of the 'Year' column after converting it to a factor.
- Environment:** Lists various data frames and their dimensions, including 'iris' (150 obs. of 5 var...), 'iris.cl...' (150 obs. of 2 var...), 'long_df' (78000 obs. of 4 v...), 'mediate...' (6 obs. of 3 varia...), 'mediate...' (6 obs. of 2 varia...), 'my.boxp...' (List of 11), 'my.df' (3000 obs. of 2 va...), 'origina...' (26000 obs. of 12 ...), 'process...' (1000 obs. of 11 v...), 'qualcom...' (5 obs. of 6 varia...), 'qualcom...' (12 obs. of 9 varia...), 'retail...' (5 obs. of 7 varia...), 'retail...' (1000 obs. of 14 v...), 'sd1.df' (1000 obs. of 2 va...), 'sd15.df' (1000 obs. of 2 va...), 'sd5.df' (1000 obs. of 2 va...), 'split_1...' (List of 1000), 'split_m...' (chr [1:1000, 1:3]...), 'tidy_da...' (1000 obs. of 17 v...), 'unique...' (10 obs. of 12 var...), 'wide_df' (26000 obs. of 5 v...), and 'x1x2.sc...' (List of 136).
- Console:** Shows the summary output for 'qualcomm_df\$Year' and the calculation of average revenue and maximum stock price.

Bottom Screenshot:

- Code Editor:** The code continues with the calculation of average revenue and maximum stock price, and prints the results.
- Environment:** Similar to the top screenshot, but with updated dimensions for some data frames.
- Console:** Shows the final output of the code, including the average revenue and maximum stock price.

