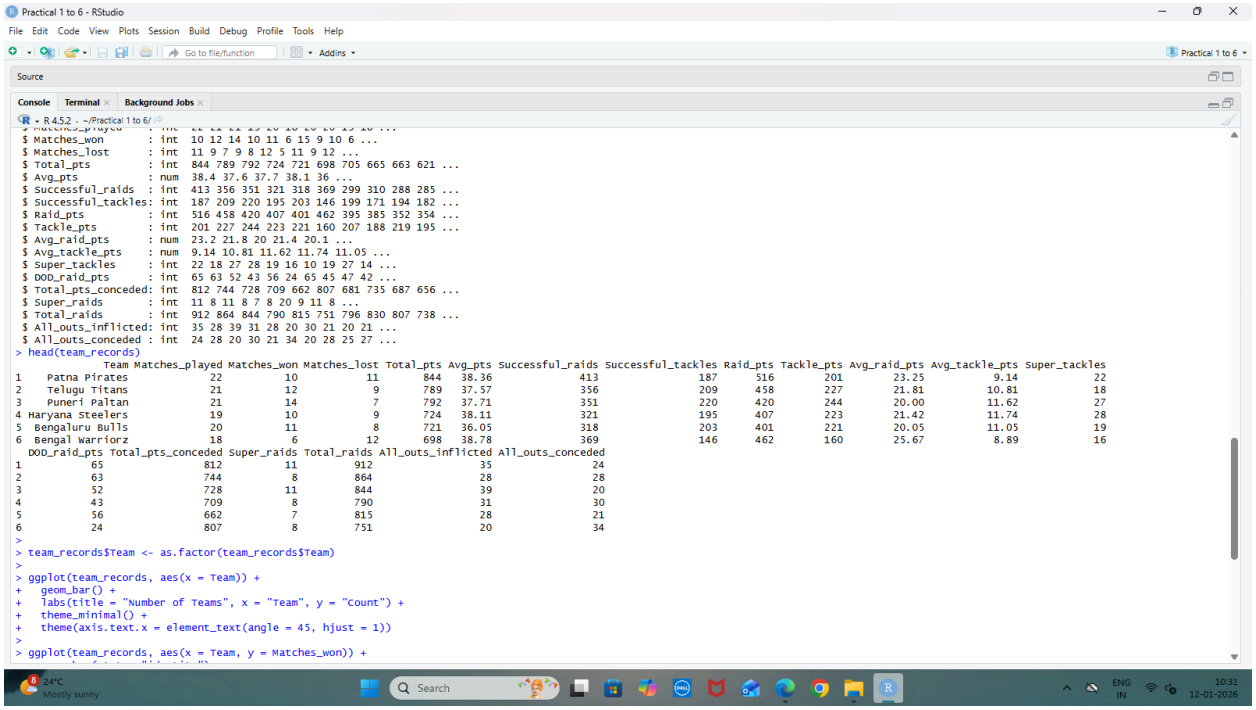
SHETH L.U.J AND SIR M.V COLLEGE
PRACTICAL NO: 10,11,12
OUTPUTS:

10 Creating graphical reports using ,ggplot2 (R).



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PRACTICAL NO: 10,11,12
OUTPUTS:

Practical 1 to 6 - RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Source

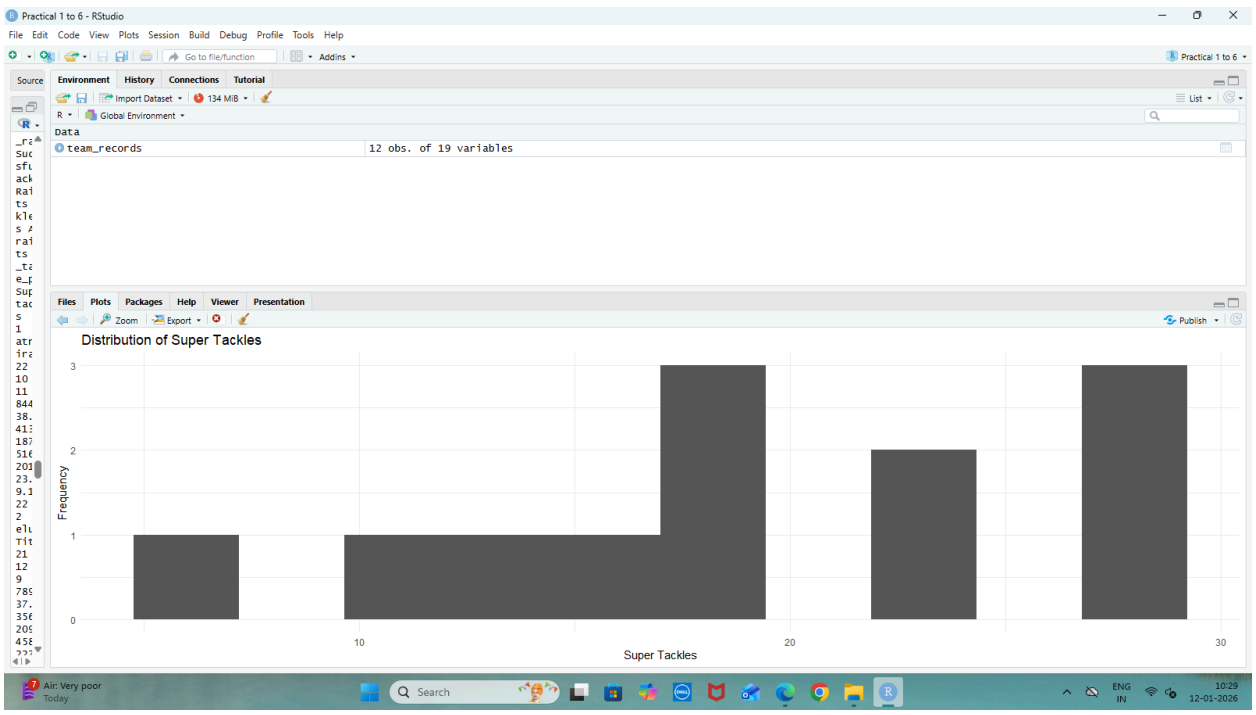
Console Terminal Background Jobs

R 4.5.2 · ~/Practical 1 to 6/

```
6           24              807           8          751              20              34
>
> team_records$Team <- as.factor(team_records$Team)
>
> ggplot(team_records, aes(x = Team)) +
+   geom_bar() +
+   labs(title = "Number of Teams", x = "Team", y = "Count") +
+   theme_minimal() +
+   theme(axis.text.x = element_text(angle = 45, hjust = 1))
>
> ggplot(team_records, aes(x = Team, y = Matches_won)) +
+   geom_bar(stat = "identity") +
+   labs(title = "Matches Won by Each Team", x = "Team", y = "Matches Won") +
+   theme_minimal() +
+   theme(axis.text.x = element_text(angle = 45, hjust = 1))
>
> ggplot(team_records, aes(x = Team, y = Total_pts)) +
+   geom_bar(stat = "identity") +
+   labs(title = "Total Points by Team", x = "Team", y = "Total Points") +
+   theme_minimal() +
+   theme(axis.text.x = element_text(angle = 45, hjust = 1))
>
> ggplot(team_records, aes(x = Team, y = Avg_pts)) +
+   geom_boxplot() +
+   labs(title = "Average Points Distribution", x = "Team", y = "Average Points") +
+   theme_minimal() +
+   theme(axis.text.x = element_text(angle = 45, hjust = 1))
>
> ggplot(team_records, aes(x = Successful_raids, y = Successful_tackles)) +
+   geom_point(alpha = 0.7) +
+   labs(title = "Successful Raids vs Successful Tackles",
+        x = "Successful Raids",
+        y = "Successful Tackles") +
+   theme_minimal()
>
> ggplot(team_records, aes(x = Super_tackles)) +
+   geom_histogram(bins = 10) +
+   labs(title = "Distribution of Super Tackles",
+        x = "Super Tackles",
+        y = "Frequency") +
+   theme_minimal()
>
```

Air: Very poor
Today

Search



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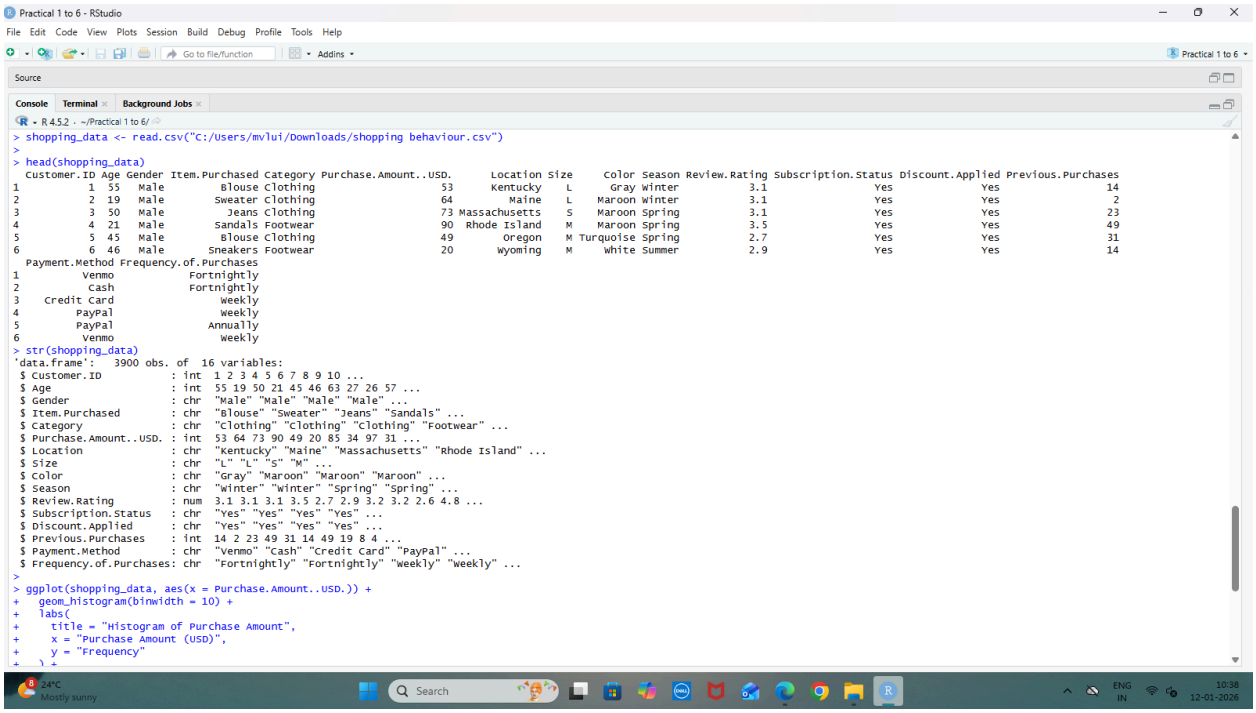
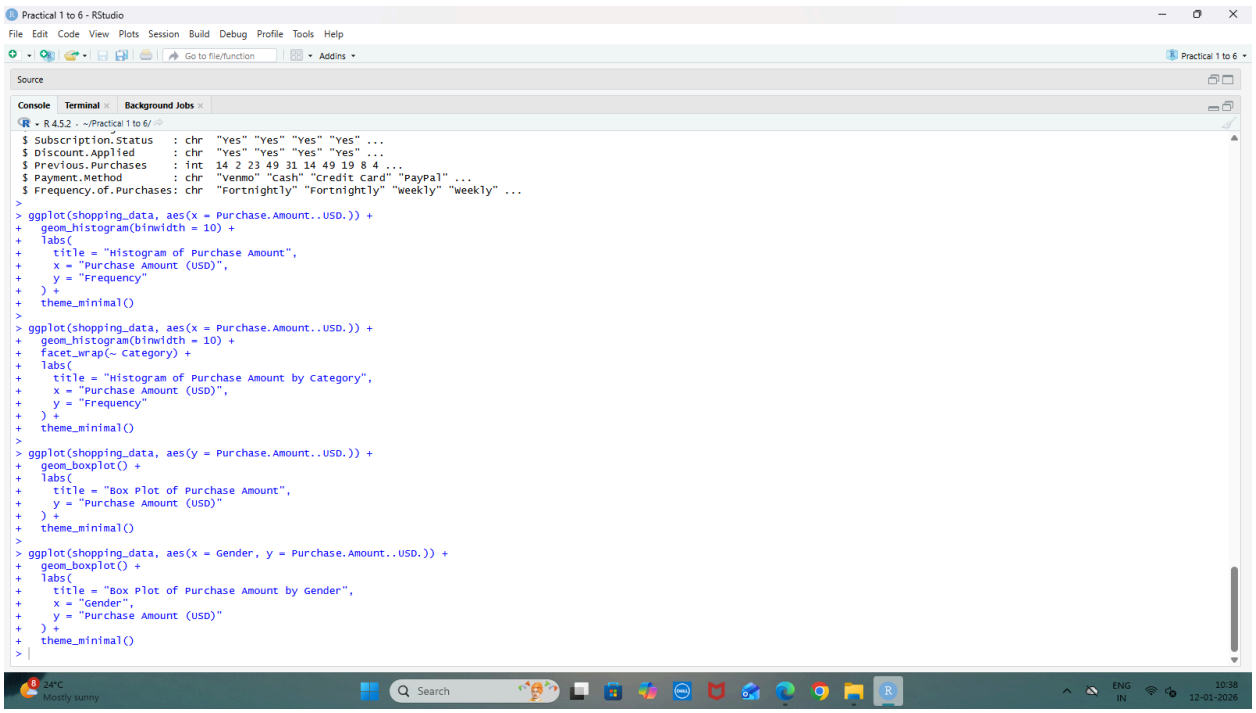
11 Generating histograms and box plots using ggplot2 (R).





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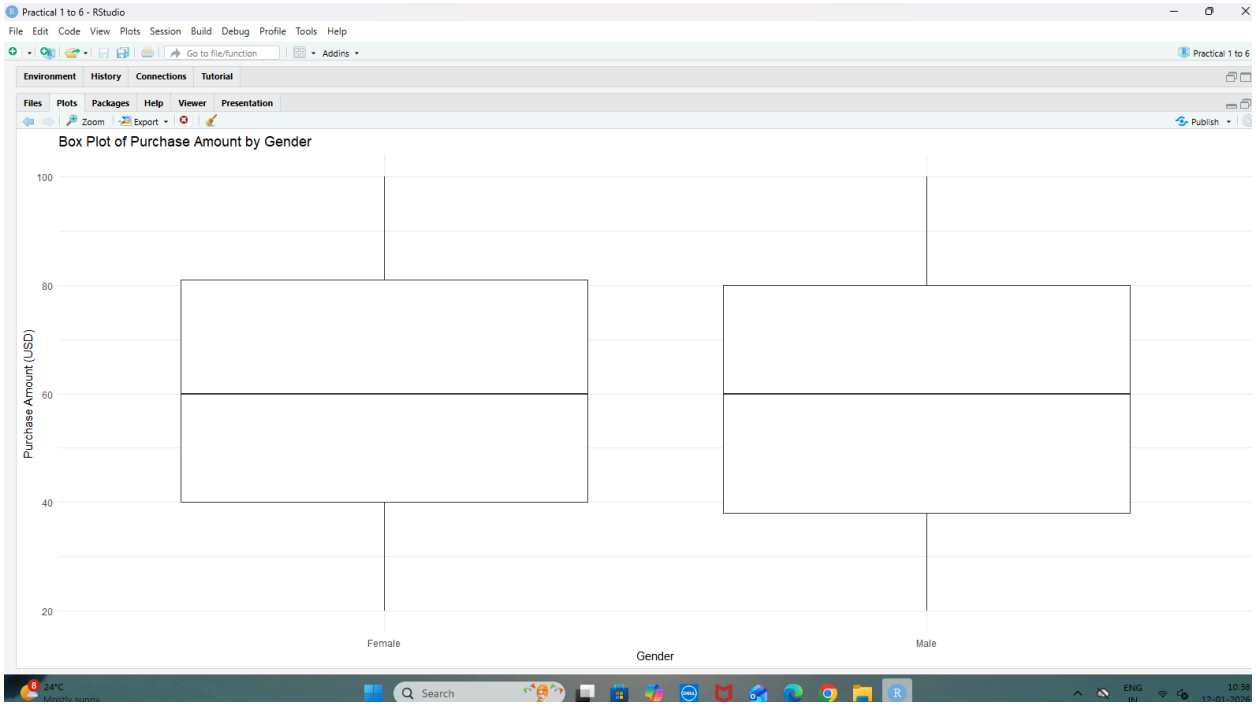

12 Generating correlation matrices using cor() (R).

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PRACTICAL NO: 10,11,12
OUTPUTS:

```
>
> ggplot(shopping_data, aes(x = Gender, y = Purchase.Amount..USD.)) +
+   geom_boxplot() +
+   labs(
+     title = "Box Plot of Purchase Amount by Gender",
+     x = "Gender",
+     y = "Purchase Amount (USD)"
+   ) +
+   theme_minimal()
> shopping_data <- read.csv("C:/Users/mvlui/Downloads/shopping behaviour.csv")
>
> head(shopping_data)
  Customer.ID Age Gender Item.Purchased Category Purchase.Amount..USD. Location Size    Color Season Review.Rating Subscription.Status Discount.Applied Previous.Purchases
1           1  55   Male         Blouse Clothing                    53 Kentucky    L     Gray Winter          3.1                 Yes              Yes                14
2           2  19   Male        Sweater Clothing                    64    Maine    L  Maroon Winter          3.1                 Yes              Yes                 2
3           3  50   Male          Jeans Clothing                    73 Massachusetts    S  Maroon Spring          3.1                 Yes              Yes                23
4           4  21   Male        Sandals Footwear                    90  Rhode Island    M  Maroon Spring          3.5                 Yes              Yes                49
5           5  45   Male         Blouse Clothing                    49        Oregon    M Turquoise Spring          2.7                 Yes              Yes                31
6           6  46   Male       Sneakers Footwear                    20       Wyoming    M     White Summer          2.9                 Yes              Yes                14
  Payment.Method Frequency.of.Purchases
1          Venmo            Fortnightly
2           Cash            Fortnightly
3    Credit Card                 Weekly
4         PayPal                 Weekly
5         PayPal               Annually
6          Venmo                 Weekly
> str(shopping_data)
'data.frame':   3900 obs. of  16 variables:
 $ Customer.ID           : int  1 2 3 4 5 6 7 8 9 10 ...
 $ Age                   : int  55 19 50 21 45 46 63 27 26 57 ...
 $ Gender                : chr  "Male" "Male" "Male" "Male" ...
 $ Item.Purchased        : chr  "Blouse" "Sweater" "Jeans" "Sandals" ...
 $ Category              : chr  "Clothing" "Clothing" "Clothing" "Footwear" ...
 $ Purchase.Amount..USD. : int  53 64 73 90 49 20 85 34 97 31 ...
 $ Location              : chr  "Kentucky" "Maine" "Massachusetts" "Rhode Island" ...
 $ Size                  : chr  "L" "L" "S" "M" ...
 $ Color                 : chr  "Gray" "Maroon" "Maroon" "Maroon" ...
 $ Season                : chr  "Winter" "Winter" "Spring" "Spring" ...
 $ Review.Rating         : num  3.1 3.1 3.1 3.5 2.7 2.9 3.2 3.2 2.6 4.8 ...
```

```
                      Customer.ID          Age Purchase.Amount..USD. Review.Rating Previous.Purchases
Customer.ID           1.000000000 -0.004078574           0.011047801   0.001343012       -0.039158526
Age                  -0.004078574  1.000000000          -0.010423647  -0.021949148        0.040444531
Purchase.Amount..USD. 0.011047801 -0.010423647           1.000000000   0.030775923        0.008063412
Review.Rating         0.001343012 -0.021949148           0.030775923   1.000000000        0.004229099
Previous.Purchases   -0.039158526  0.040444531           0.008063412   0.004229099        1.000000000
>
> rounded_correlation <- round(correlation_matrix, 2)
>
> print(rounded_correlation)
                     Customer.ID   Age Purchase.Amount..USD. Review.Rating Previous.Purchases
Customer.ID                 1.00  0.00                 0.01          0.00              -0.04
Age                         0.00  1.00                -0.01         -0.02               0.04
Purchase.Amount..USD.       0.01 -0.01                 1.00          0.03               0.01
Review.Rating               0.00 -0.02                 0.03          1.00               0.00
Previous.Purchases         -0.04  0.04                 0.01          0.00               1.00
> library(ggplot2)
  library(dplyr)

  team_records <- read.csv("C:/Users/mvlui/Downloads/team_records.csv")

  str(team_records)
  head(team_records)

  team_records$Team <- as.factor(team_records$Team)

  ggplot(team_records, aes(x = Team)) +
    geom_bar() +
    labs(title = "Number of Teams", x = "Team", y = "Count") +
    theme_minimal() +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))

  ggplot(team_records, aes(x = Team, y = Matches_won)) +
    geom_bar(stat = "identity") +
    labs(title = "Matches Won by Each Team", x = "Team", y = "Matches Won") +
    theme_minimal() +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))

  ggplot(team_records, aes(x = Team, y = Total_pts)) +
    geom_bar(stat = "identity") +
    labs(title = "Total Points by Team", x = "Team", y = "Total Points") +
    theme_minimal() +
    theme(axis.text.x = element_text(angle = 45, hjust = 1))
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