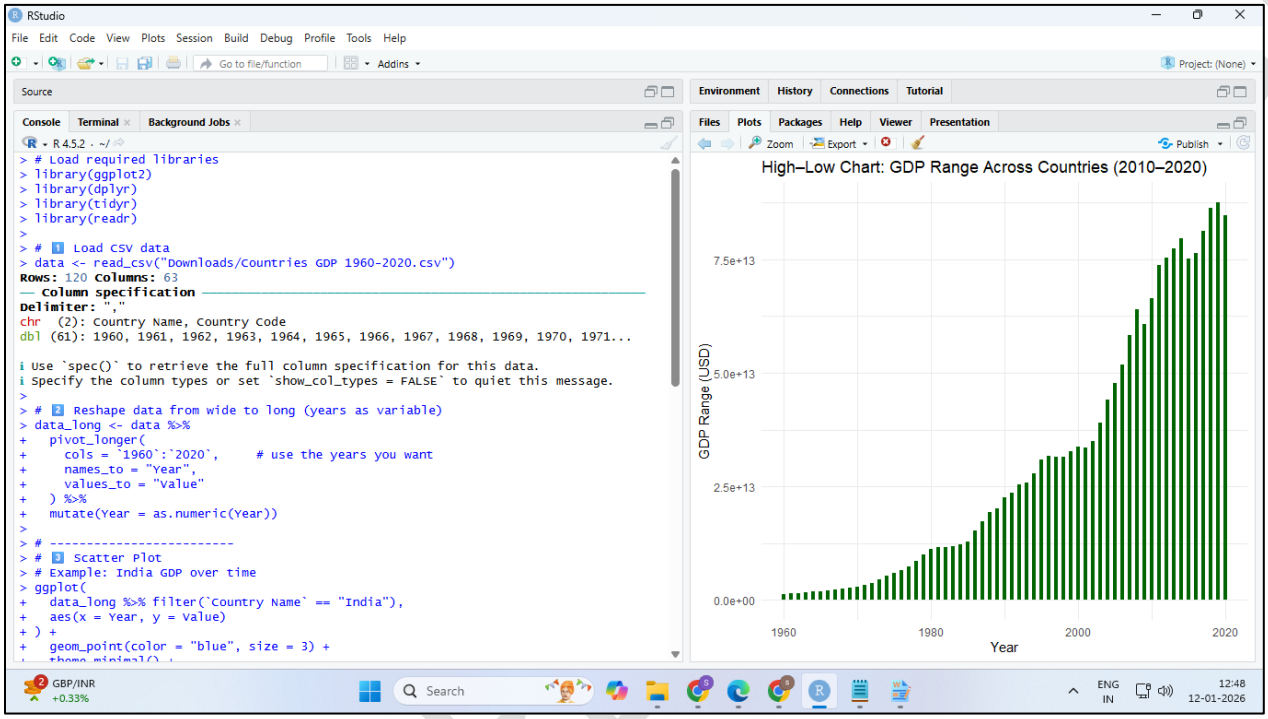
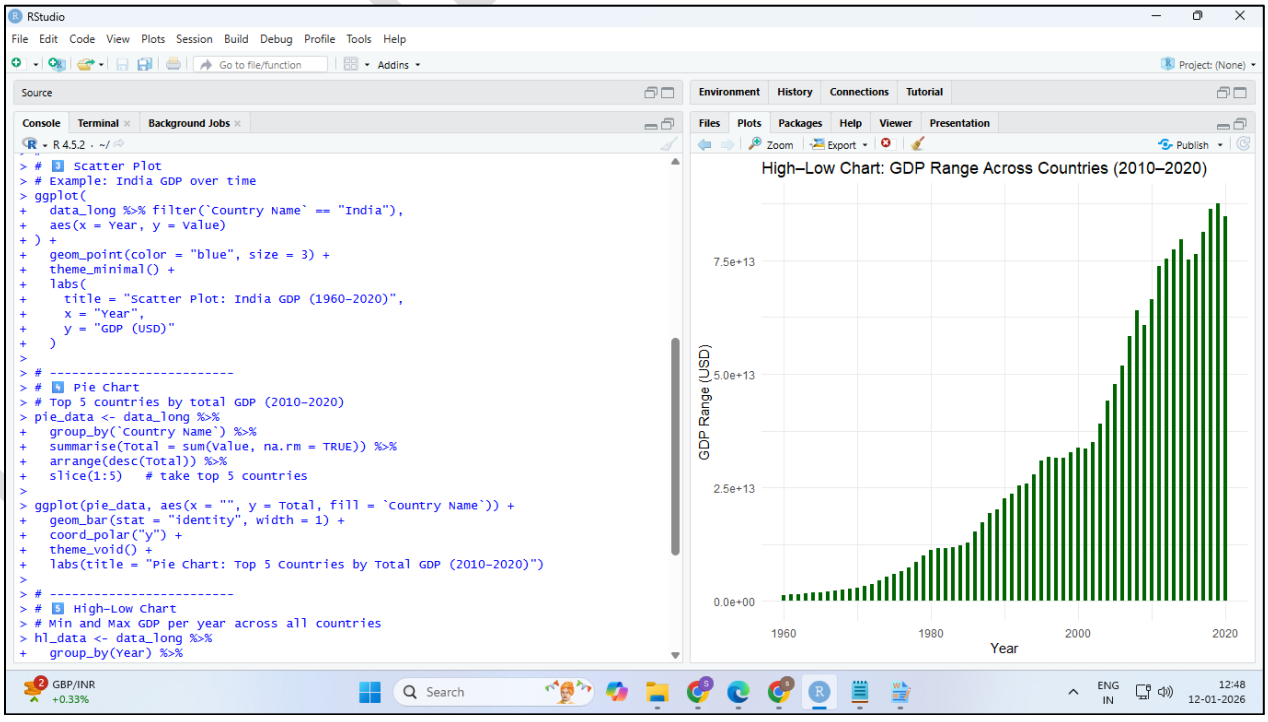
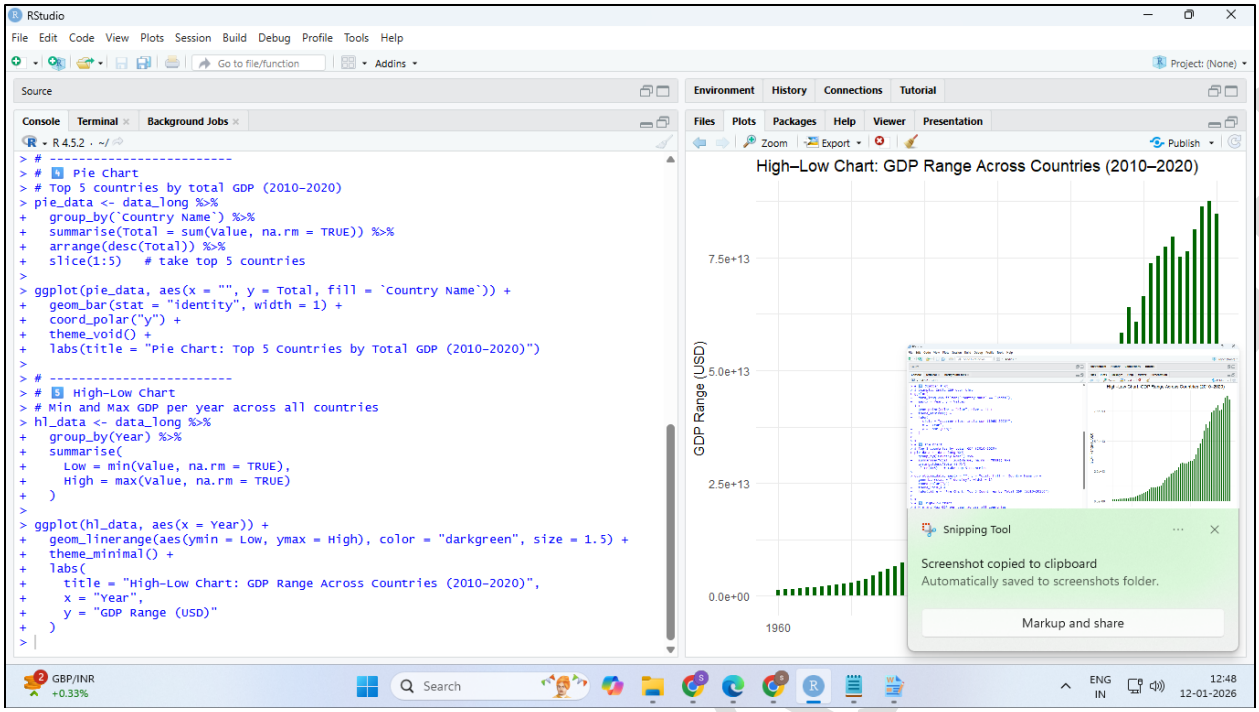
PRACTICAL : 10

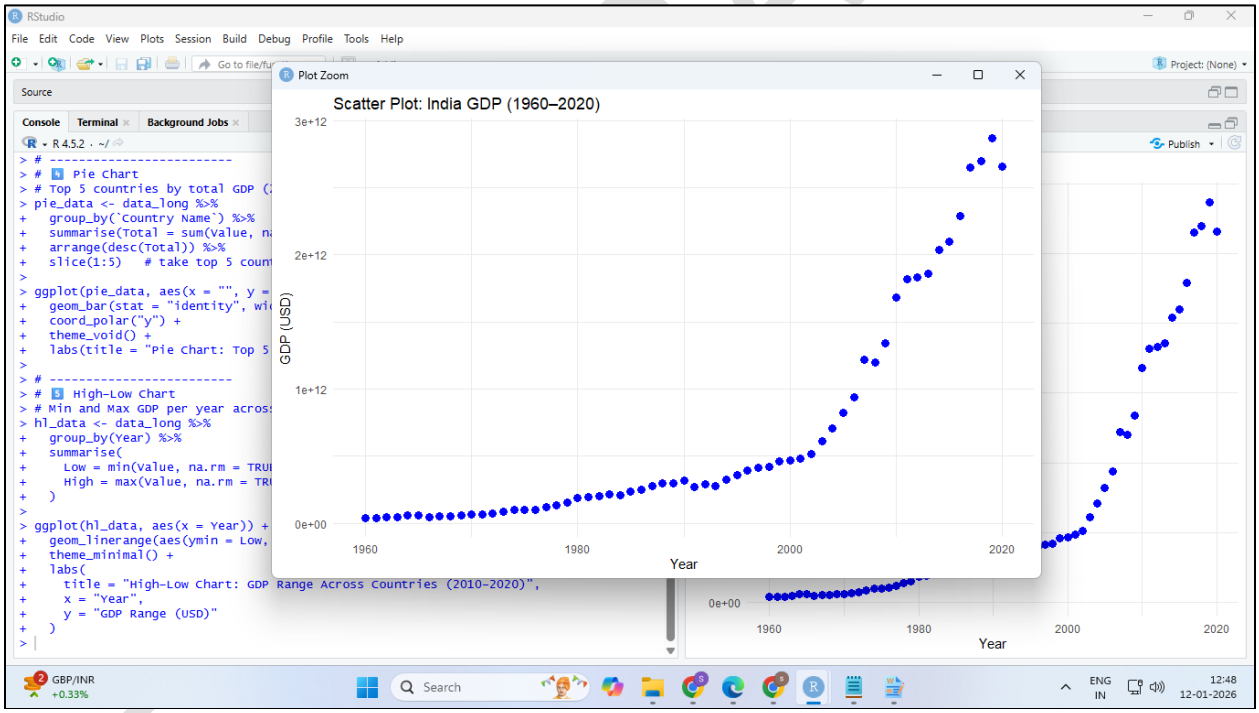
AIM : Creating graphical reports using ,ggplot2 (R).

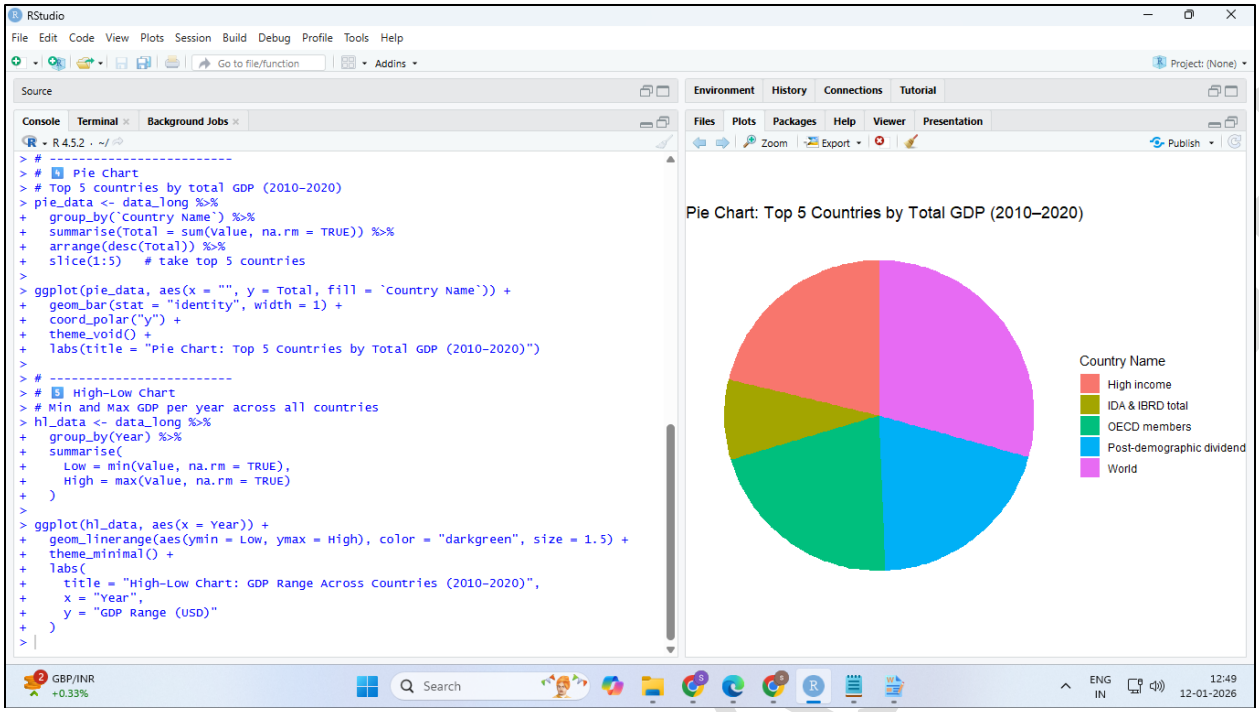
- Scatter Plots
- Pie Charts
- High-Low Chart






RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
R 4.5.2 · ~/
> # ------------------------
> # 🥧 Pie Chart
> # Top 5 countries by total GDP (2010–2020)
> pie_data <- data_long %>%
+ group_by(`Country Name`) %>%
+ summarise(Total = sum(Value, na.rm = TRUE)) %>%
+ arrange(desc(Total)) %>%
+ slice(1:5) # take top 5 countries
>
> ggplot(pie_data, aes(x = "", y = Total, fill = `Country Name`)) +
+ geom_bar(stat = "identity", width = 1) +
+ coord_polar("y") +
+ theme_void() +
+ labs(title = "Pie Chart: Top 5 Countries by Total GDP (2010–2020)")
>
> # ------------------------
> # 📊 High–Low Chart
> # Min and Max GDP per year across all countries
> hl_data <- data_long %>%
+ group_by(Year) %>%
+ summarise(
+ Low = min(Value, na.rm = TRUE),
+ High = max(Value, na.rm = TRUE)
+)
>
> ggplot(hl_data, aes(x = Year)) +
+ geom_linerange(aes(ymin = Low, ymax = High), color = "darkgreen", size = 1.5) +
+ theme_minimal() +
+ labs(
+ title = "High–Low Chart: GDP Range Across Countries (2010–2020)",
+ x = "Year",
+ y = "GDP Range (USD)"
+)
>
Environment History Connections Tutorial
Files Plots Packages Help Viewer Presentation
Zoom Export Publish
High–Low Chart: GDP Range Across Countries (2010–2020)
GDP Range (USD)
7.5e+13
5.0e+13
2.5e+13
0.0e+00
1960
Snipping Tool
Screenshot copied to clipboard
Automatically saved to screenshots folder.
Markup and share
GBP/INR +0.33%
Search
ENG IN
12:48 12-01-2026


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Plot Zoom
Scatter Plot: India GDP (1960–2020)
GDP (USD)
3e+12
2e+12
1e+12
0e+00
1960
1980
2000
2020
Year
GBP/INR +0.33%
Search
ENG IN
12:48 12-01-2026


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Source
Console Terminal Background Jobs
Environment History Connections Tutorial
Files Plots Packages Help Viewer Presentation
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+ arrange(desc(Total)) %>%
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+ geom_bar(stat = "identity", width = 1) +
+ coord_polar("y") +
+ theme_void() +
+ labs(title = "Pie Chart: Top 5 Countries by Total GDP (2010–2020)")
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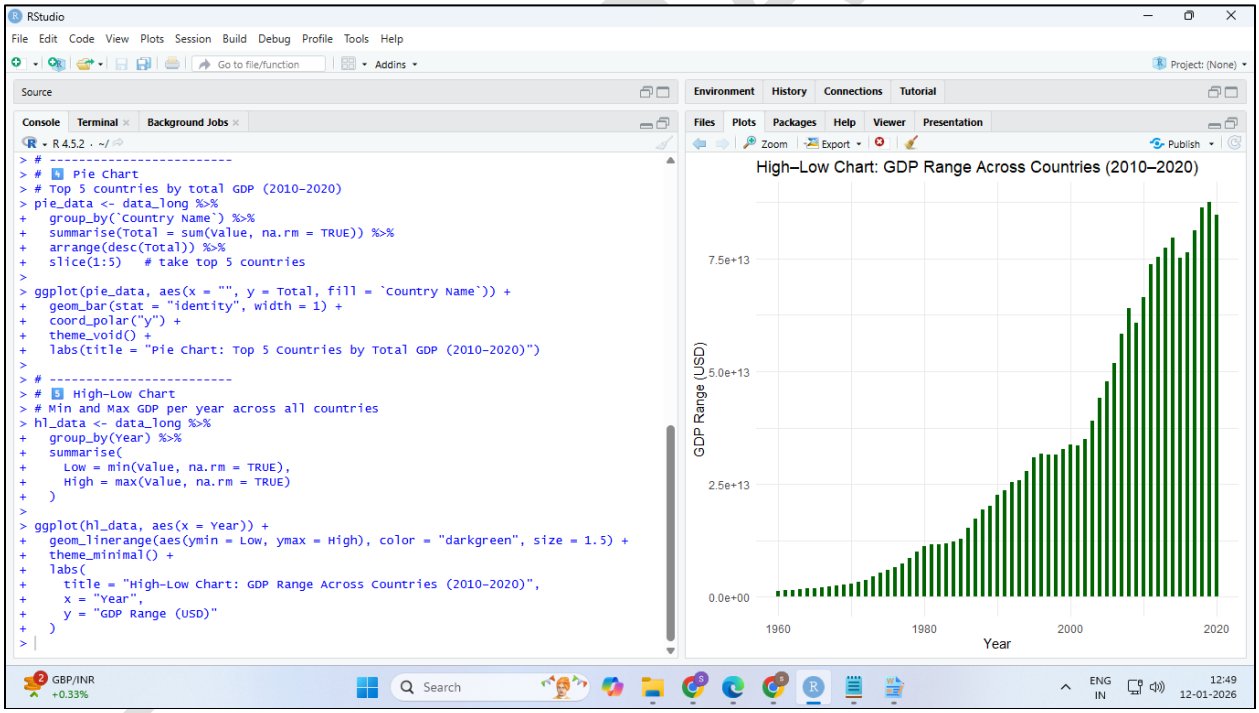
+ High = max(Value, na.rm = TRUE)
+)
>
> ggplot(hl_data, aes(x = Year)) +
+ geom_linerange(aes(ymin = Low, ymax = High), color = "darkgreen", size = 1.5) +
+ theme_minimal() +
+ labs(
+ title = "High–Low Chart: GDP Range Across Countries (2010–2020)",
+ x = "Year",
+ y = "GDP Range (USD)"
+)
Pie Chart: Top 5 Countries by Total GDP (2010–2020)
Country Name
High income
IDA & IBRD total
OECD members
Post-demographic dividend
World
GBP/INR +0.33%
Search
ENG IN
12:49 12-01-2026


RStudio
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Source
Console Terminal Background Jobs
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Files Plots Packages Help Viewer Presentation
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+ coord_polar("y") +
+ theme_void() +
+ labs(title = "Pie Chart: Top 5 Countries by Total GDP (2010–2020)")
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+)
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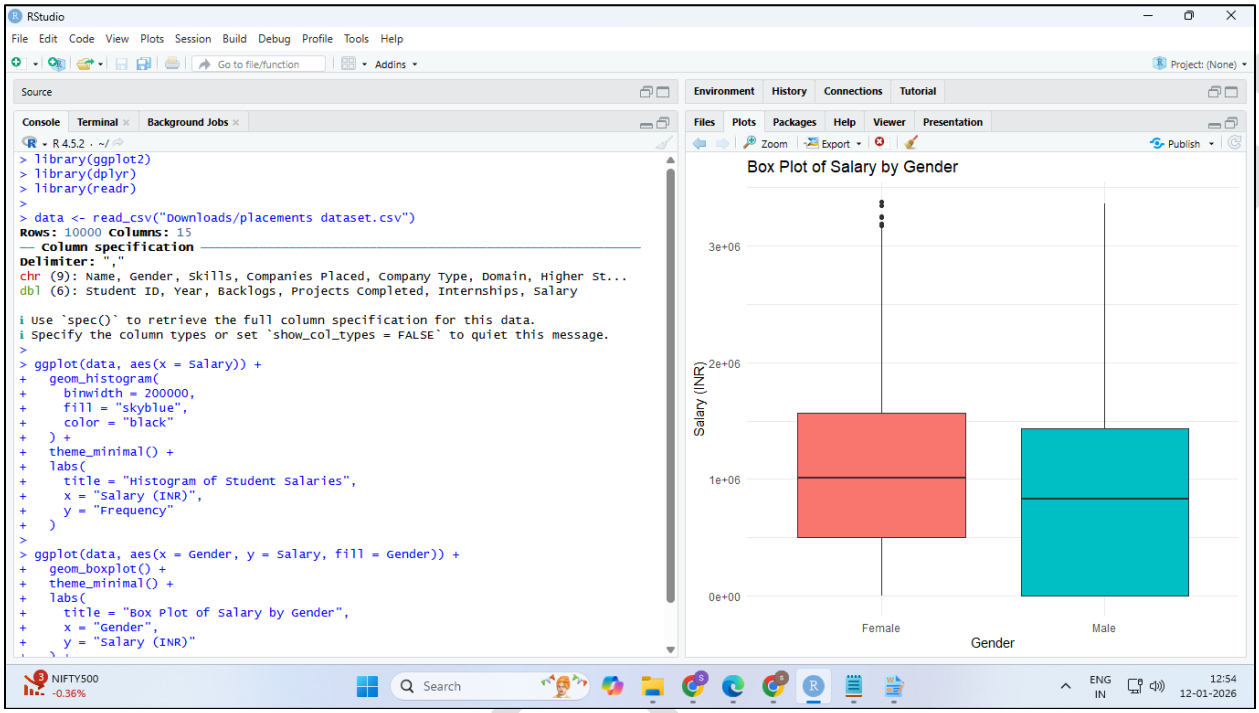
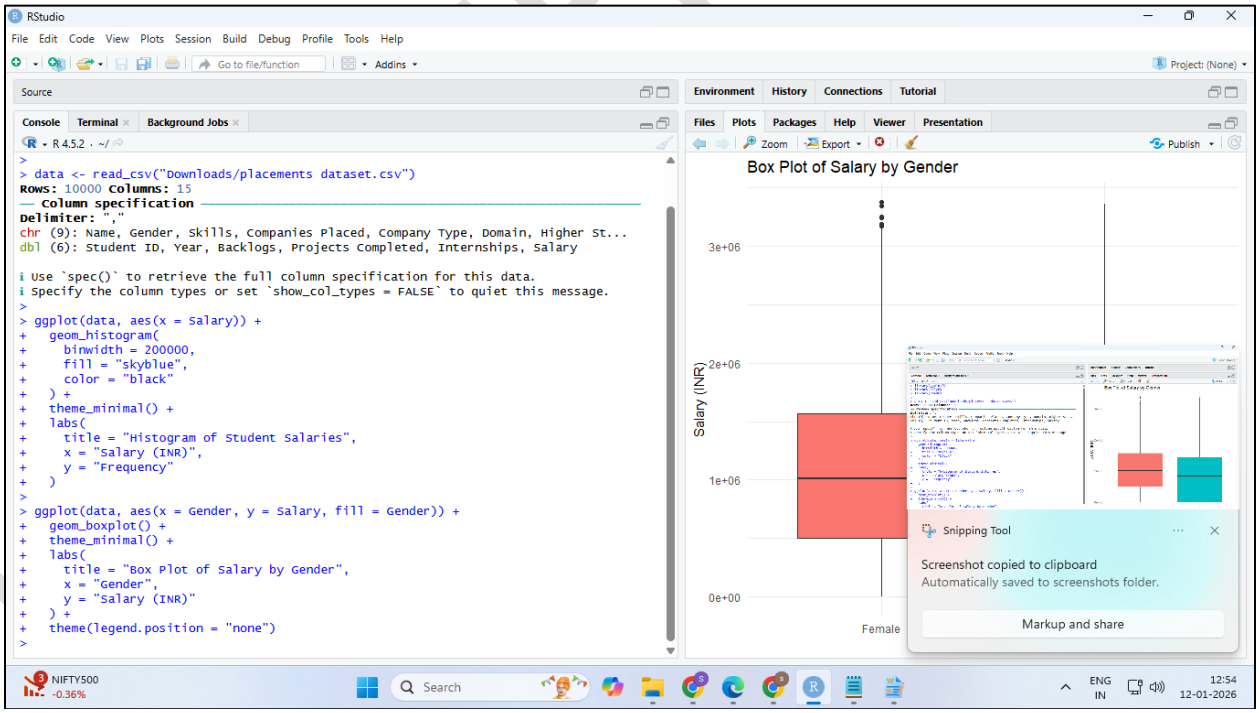
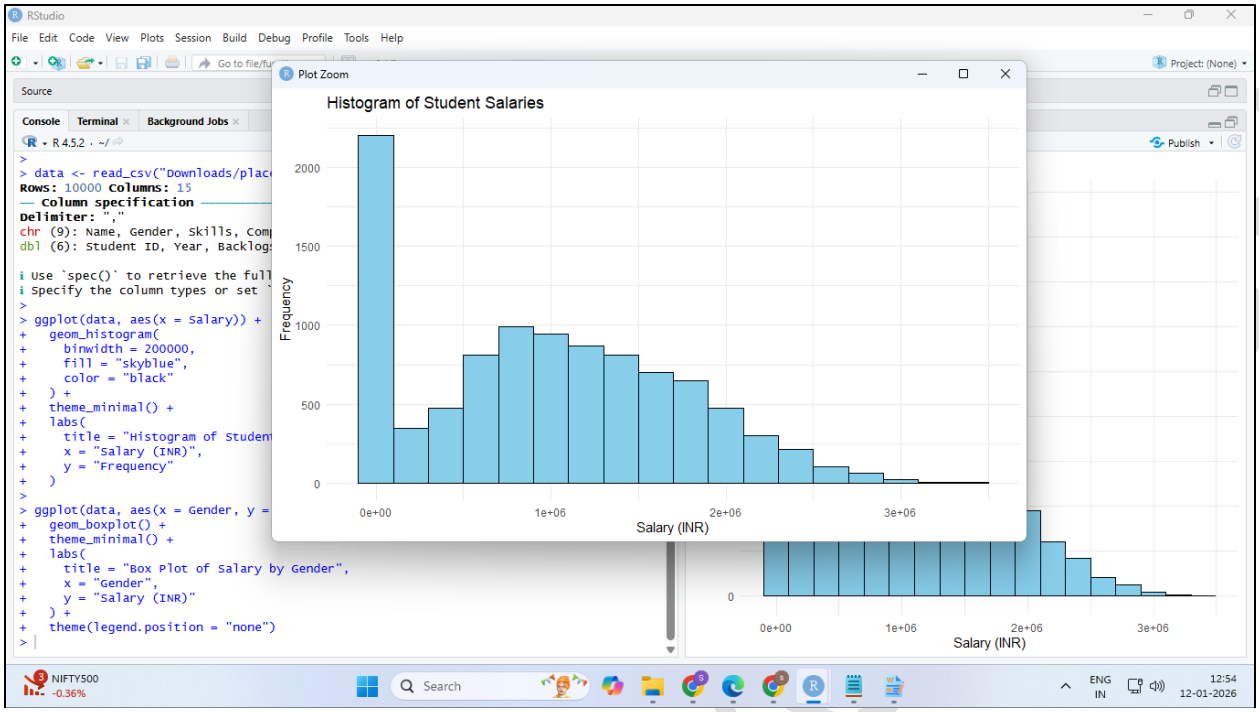
+ geom_linerange(aes(ymin = Low, ymax = High), color = "darkgreen", size = 1.5) +
+ theme_minimal() +
+ labs(
+ title = "High–Low Chart: GDP Range Across Countries (2010–2020)",
+ x = "Year",
+ y = "GDP Range (USD)"
+)
High–Low Chart: GDP Range Across Countries (2010–2020)
GDP Range (USD)
7.5e+13
5.0e+13
2.5e+13
0.0e+00
1960
1980
2000
2020
Year
GBP/INR +0.33%
Search
ENG IN
12:49 12-01-2026

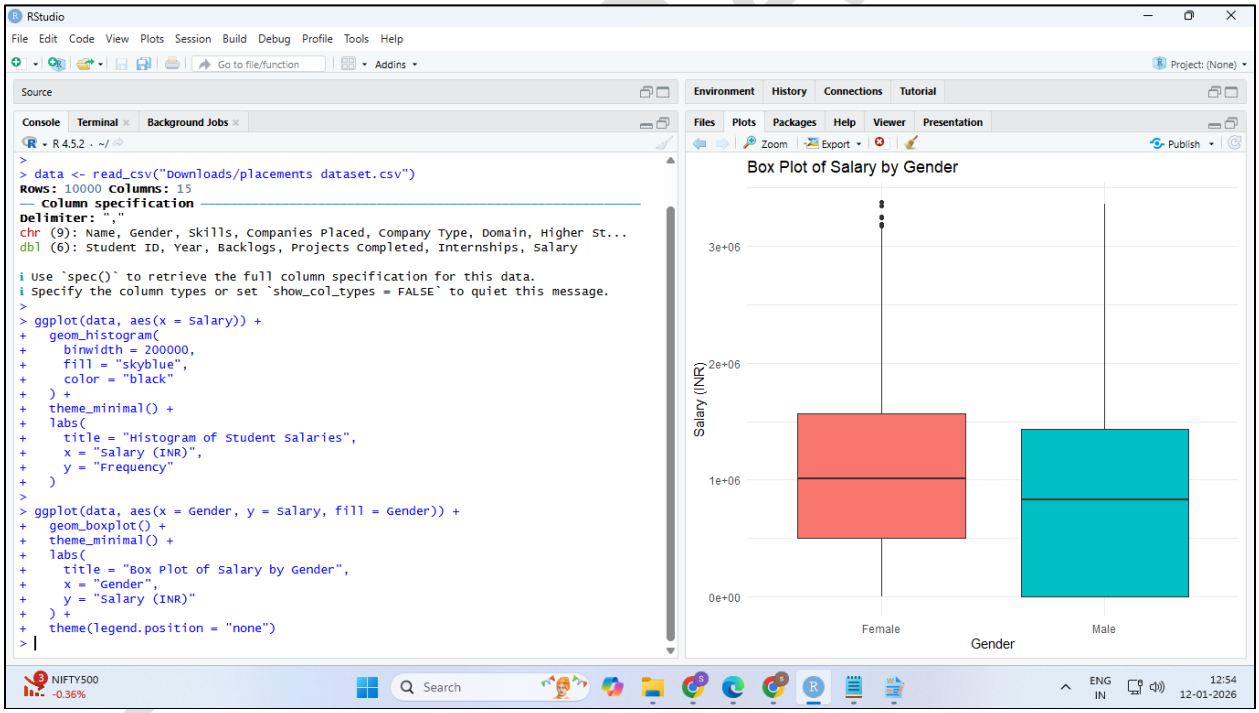
PRACTICAL : 11

Aim : Generating histograms and box plots using ggplot2 (R).






Plot Zoom
Histogram of Student Salaries
Frequency
Salary (INR)
0e+00
1e+06
2e+06
3e+06
0
500
1000
1500
2000


Box Plot of Salary by Gender
Salary (INR)
Gender
Female
Male
0e+00
1e+06
2e+06
3e+06

Practical : 12

AIM : Generating correlation matrices using cor() (R).