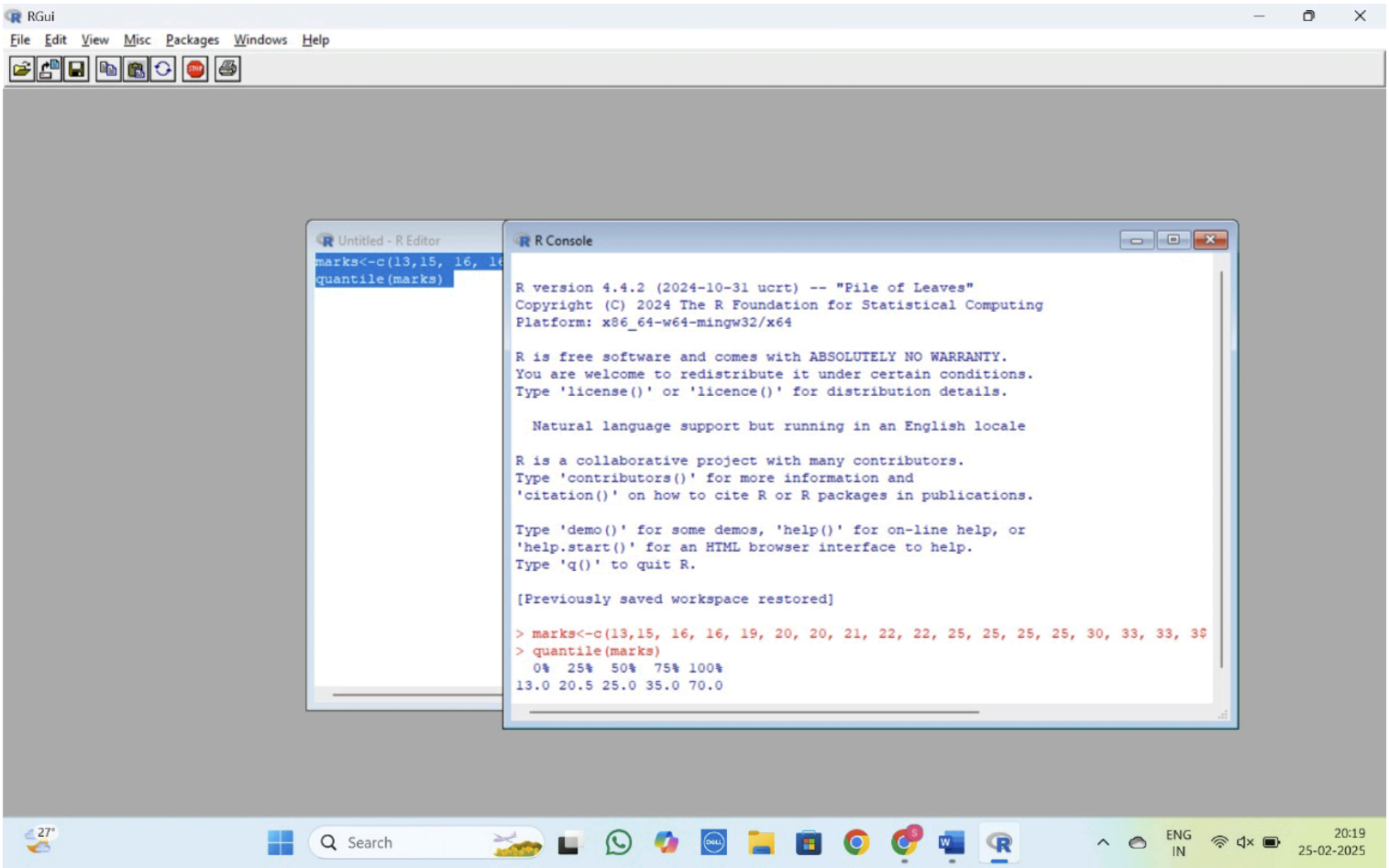
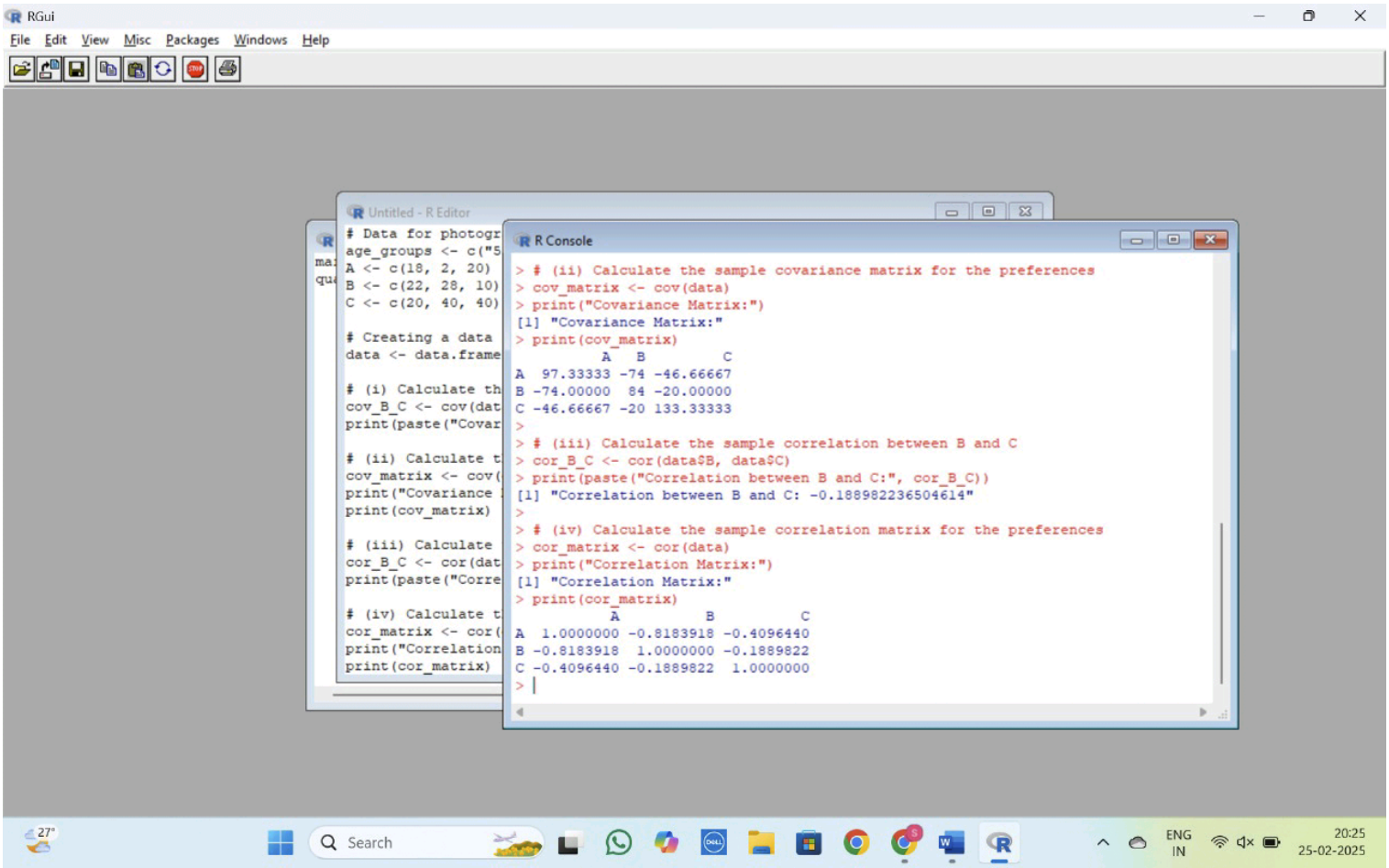
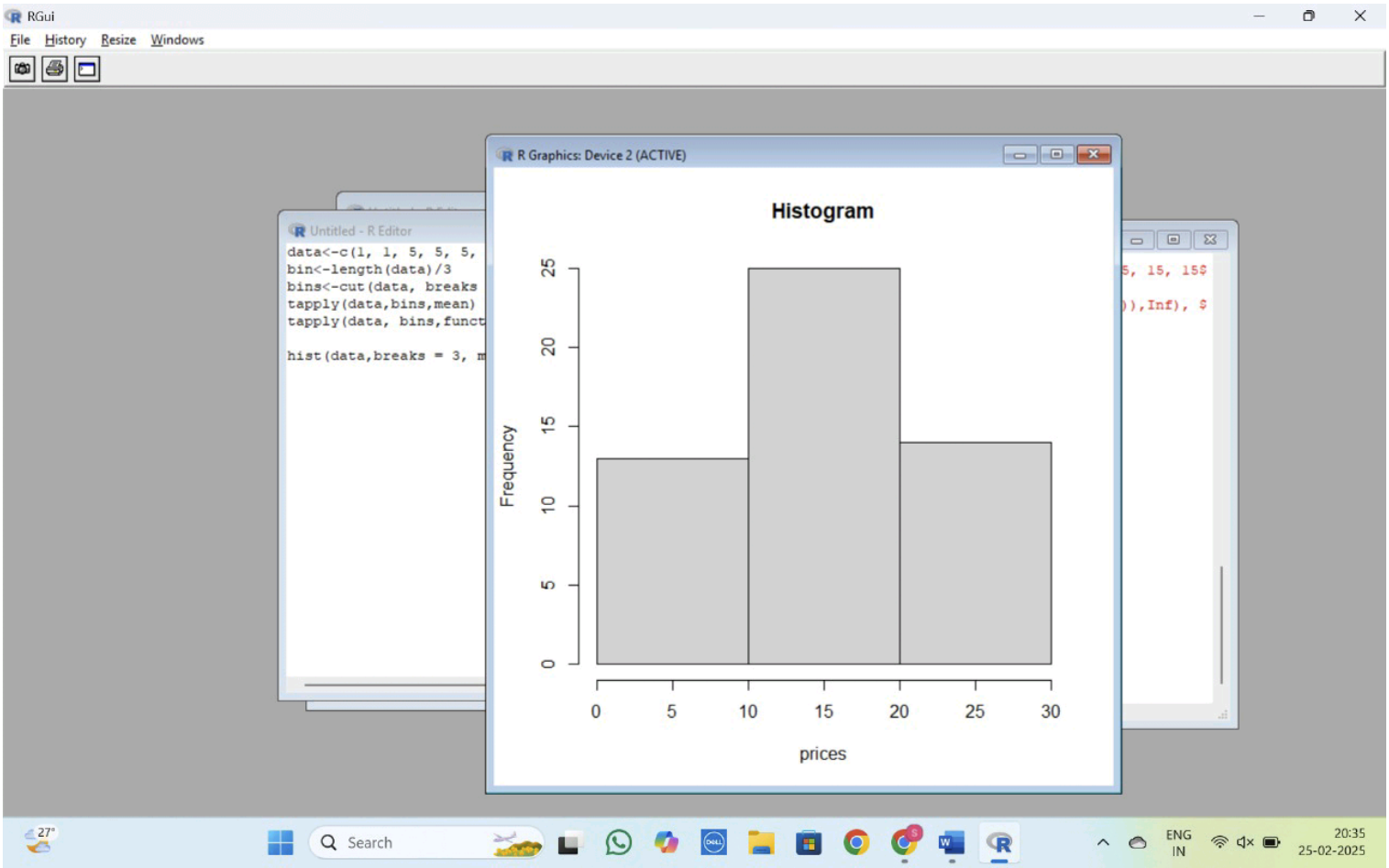

RGui
File Edit View Misc Packages Windows Help
Untitled - R Editor
marks<-c(13,15, 16, 1
quantile(marks)
R Console
R version 4.4.2 (2024-10-31 ucrt) -- "Pile of Leaves"
Copyright (C) 2024 The R Foundation for Statistical Computing
Platform: x86_64-w64-mingw32/x64
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.
Natural language support but running in an English locale
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
[Previously saved workspace restored]
> marks<-c(13,15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 3$
> quantile(marks)
0% 25% 50% 75% 100%
13.0 20.5 25.0 35.0 70.0
27°
Search
ENG
IN
20:19
25-02-2025


RGui
File Edit View Misc Packages Windows Help
Untitled - R Editor
# Data for photogr
age_groups <- c("5
A <- c(18, 2, 20)
B <- c(22, 28, 10)
C <- c(20, 40, 40)
# Creating a data
data <- data.frame
# (i) Calculate th
cov_B_C <- cov(dat
print(paste("Covar
# (ii) Calculate t
cov_matrix <- cov(
print("Covariance
print(cov_matrix)
# (iii) Calculate
cor_B_C <- cor(dat
print(paste("Corre
# (iv) Calculate t
cor_matrix <- cor(
print("Correlation
print(cor_matrix)
R Console
> # (ii) Calculate the sample covariance matrix for the preferences
> cov_matrix <- cov(data)
> print("Covariance Matrix:")
[1] "Covariance Matrix:"
> print(cov_matrix)
A B C
A 97.33333 -74 -46.66667
B -74.00000 84 -20.00000
C -46.66667 -20 133.33333
>
> # (iii) Calculate the sample correlation between B and C
> cor_B_C <- cor(data$B, data$C)
> print(paste("Correlation between B and C:", cor_B_C))
[1] "Correlation between B and C: -0.188982236504614"
>
> # (iv) Calculate the sample correlation matrix for the preferences
> cor_matrix <- cor(data)
> print("Correlation Matrix:")
[1] "Correlation Matrix:"
> print(cor_matrix)
A B C
A 1.0000000 -0.8183918 -0.4096440
B -0.8183918 1.0000000 -0.1889822
C -0.4096440 -0.1889822 1.0000000
>
27°
Search
ENG
IN
20:25
25-02-2025


RGui
File History Resize Windows
R Graphics: Device 2 (ACTIVE)
Histogram
Frequency
prices
0
5
10
15
20
25
30
Untitled - R Editor
data<-c(1, 1, 5, 5, 5,
bin<-length(data)/3
bins<-cut(data, breaks
tapply(data,bins,mean)
tapply(data, bins,funct
hist(data,breaks = 3, m
Search
ENG
IN
20:35
25-02-2025

RGui

File History Resize Windows

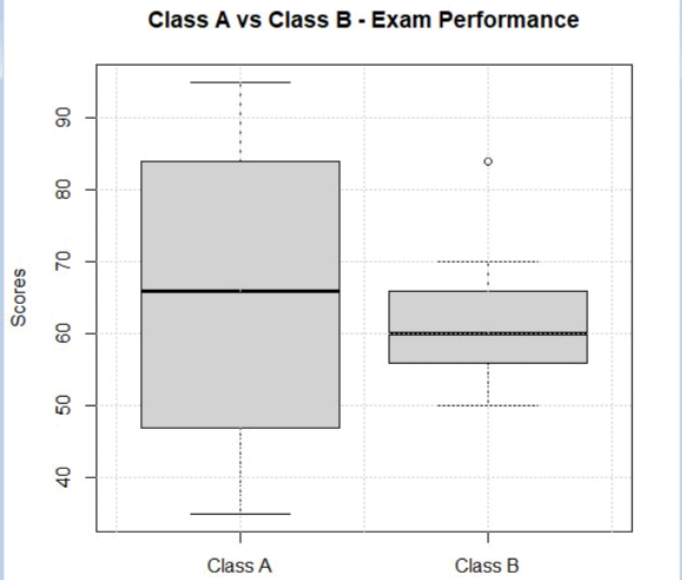
R Console

```
[Previously saved workspace restored]

> class_a <- c(76, 35, 47, 64, 95, 66, 89, 36, 84)
> class_b <- c(51, 56, 84, 60, 59, 70, 62
>
> # Calculating mean, median, and range
> mean_a <- mean(class_a)
> median_a <- median(class_a)
> range_a <- diff(range(class_a))
>
> mean_b <- mean(class_b)
> median_b <- median(class_b)
> range_b <- diff(range(class_b))
>
> # Printing results
> cat(sprintf("Class A - Mean: %.2f, Med
Class A - Mean: 65.78, Median: 66, Range
> cat(sprintf("Class B - Mean: %.2f, Med
Class B - Mean: 62.11, Median: 60, Range
>
> # Boxplot visualization
> boxplot(class_a, class_b, names = c('C
> grid()
>
```

Untitled - R E

```
class_a <-
class_b <-

# Calculati
mean_a <- m
median_a <-
range_a <-

mean_b <- m
median_b <-
range_b <-

# Printing
cat(sprintf
cat(sprintf

# Boxplot v
boxplot(cla
grid()
```

R Graphics: Device 2 (ACTIVE)

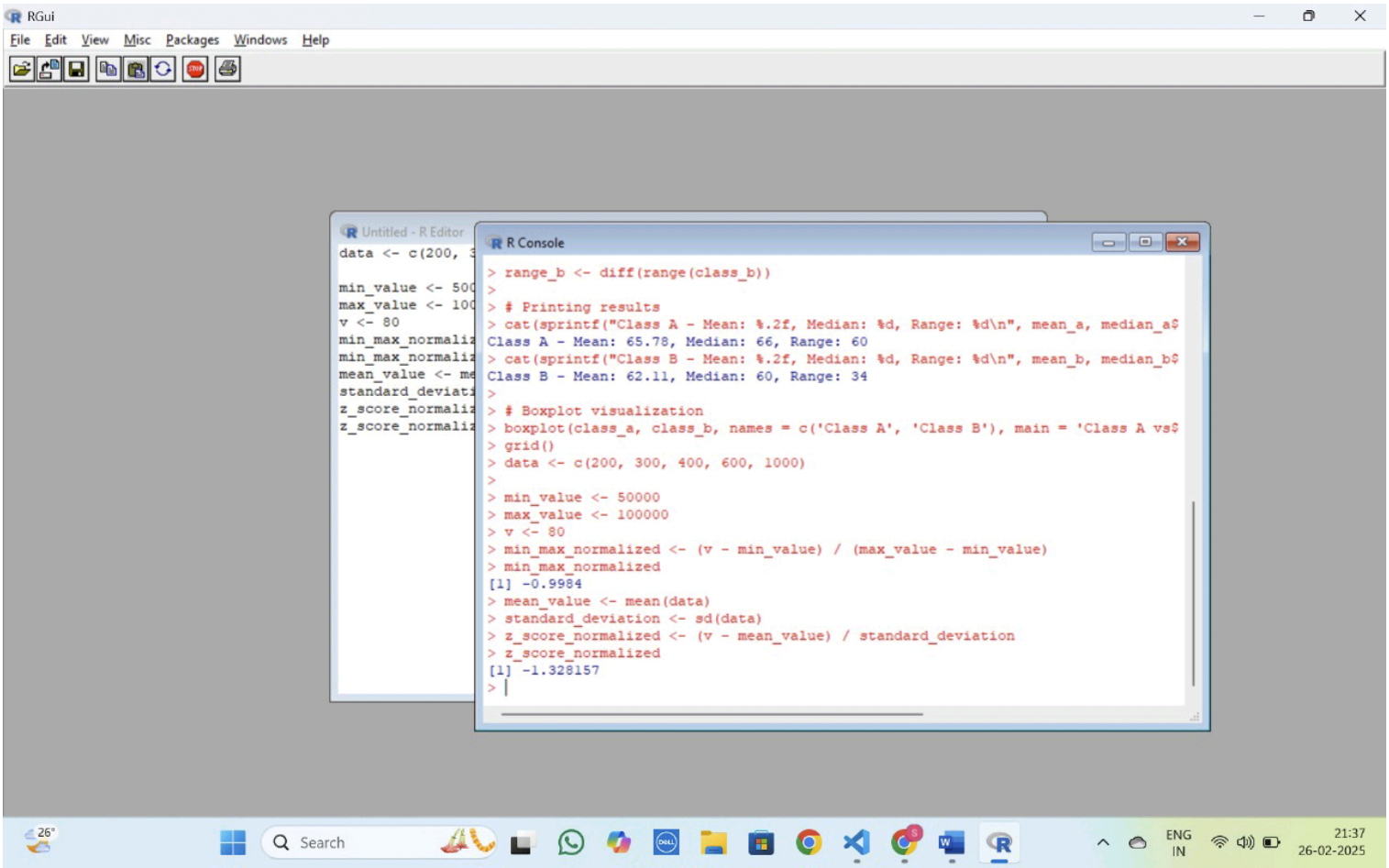


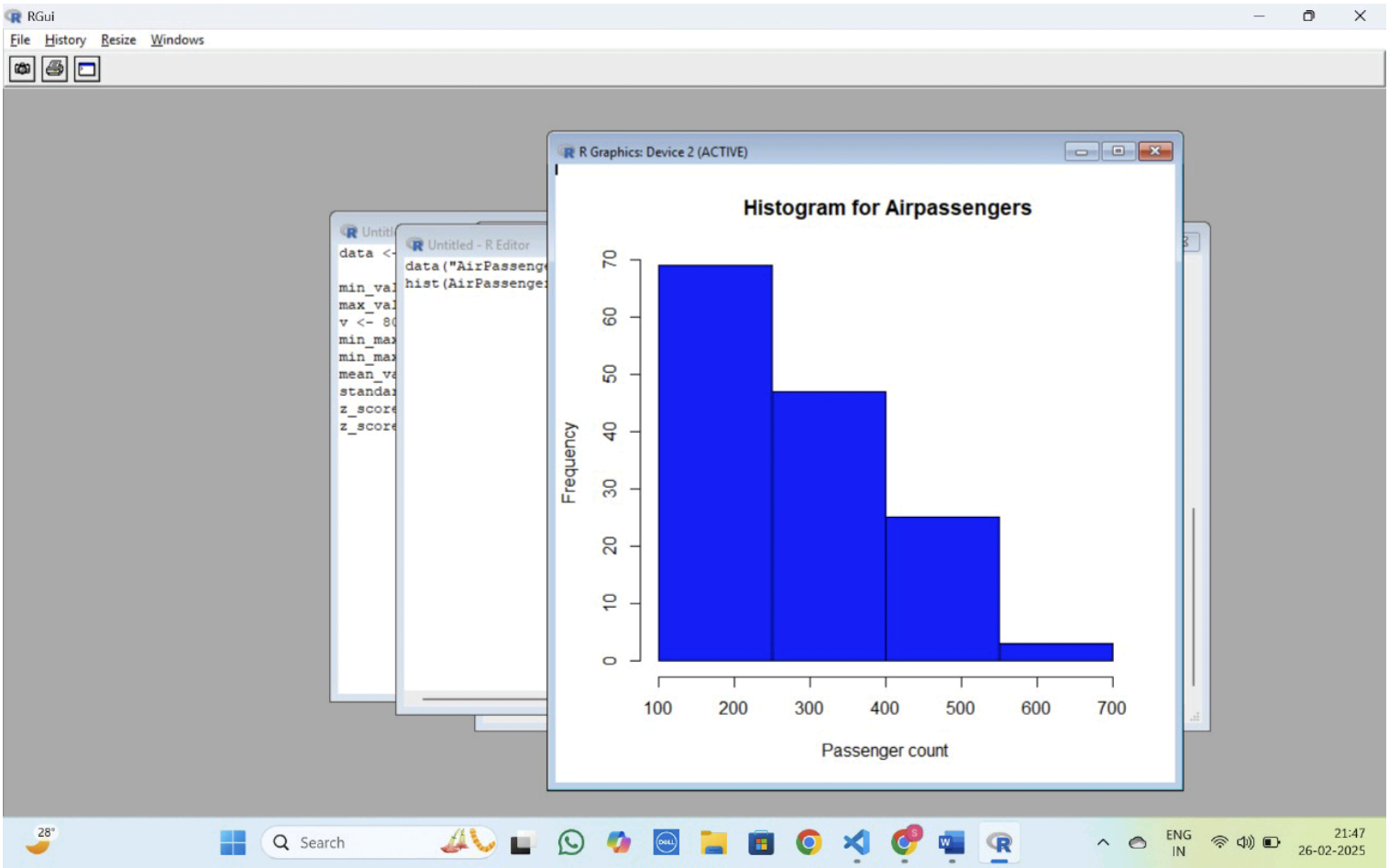
26°

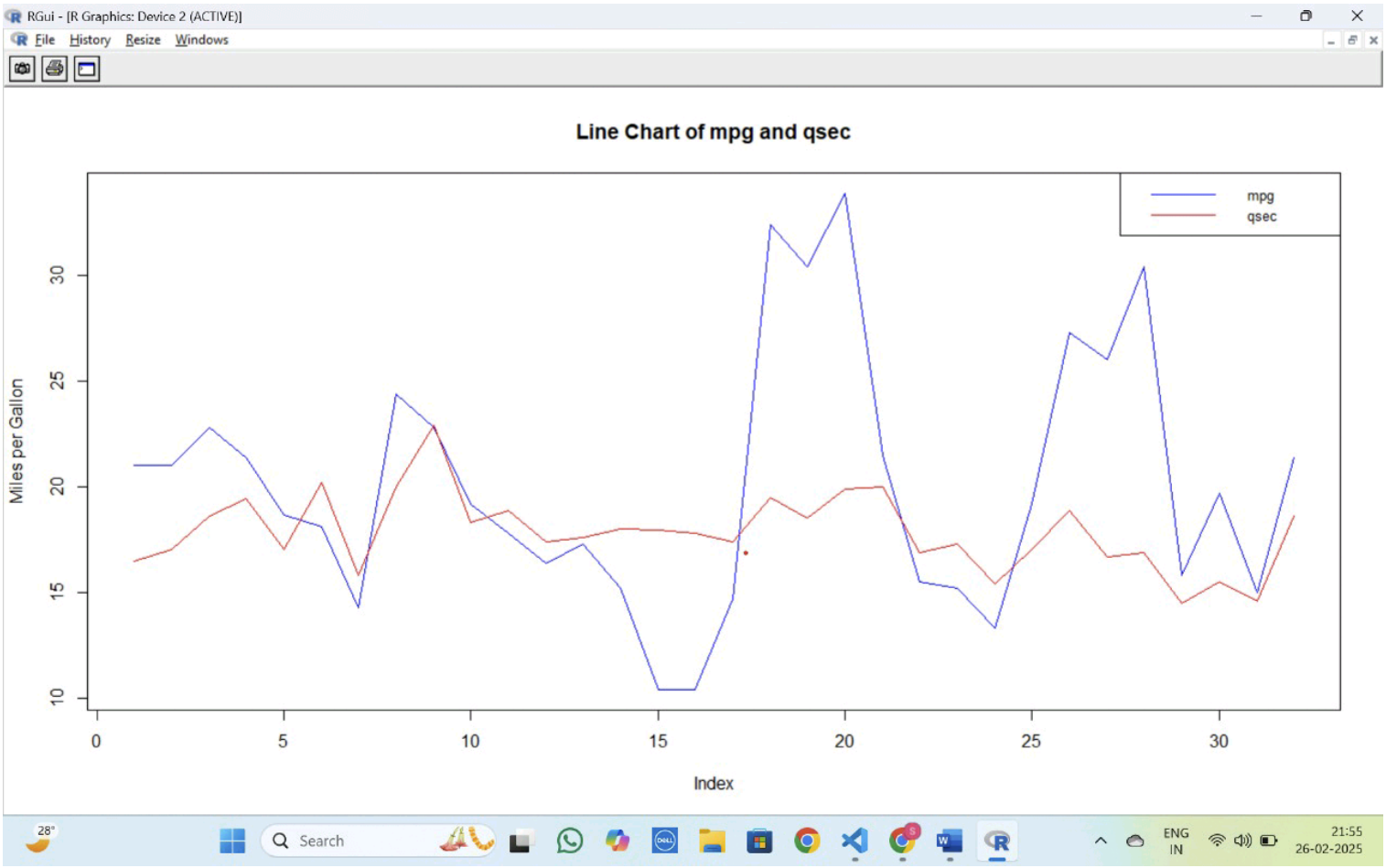
Search

ENG
IN

21:27
26-02-2025


RGui
File Edit View Misc Packages Windows Help
Untitled - R Editor
data <- c(200, 3
min_value <- 500
max_value <- 100
v <- 80
min_max_normaliz
min_max_normaliz
mean_value <- me
standard_deviati
z_score_normaliz
z_score_normaliz
R Console
> range_b <- diff(range(class_b))
>
> # Printing results
> cat(sprintf("Class A - Mean: %.2f, Median: %d, Range: %d\n", mean_a, median_a$
Class A - Mean: 65.78, Median: 66, Range: 60
> cat(sprintf("Class B - Mean: %.2f, Median: %d, Range: %d\n", mean_b, median_b$
Class B - Mean: 62.11, Median: 60, Range: 34
>
> # Boxplot visualization
> boxplot(class_a, class_b, names = c('Class A', 'Class B'), main = 'Class A vs$
> grid()
> data <- c(200, 300, 400, 600, 1000)
>
> min_value <- 50000
> max_value <- 100000
> v <- 80
> min_max_normalized <- (v - min_value) / (max_value - min_value)
> min_max_normalized
[1] -0.9984
> mean_value <- mean(data)
> standard_deviation <- sd(data)
> z_score_normalized <- (v - mean_value) / standard_deviation
> z_score_normalized
[1] -1.328157
>
26°
Search
ENG
IN
21:37
26-02-2025

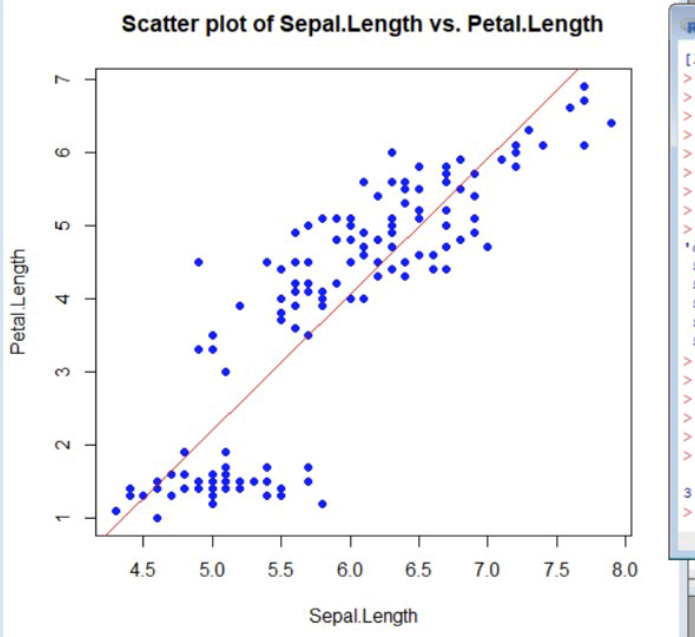

RGui
File History Resize Windows
R Graphics: Device 2 (ACTIVE)
Histogram for Airpassengers
Frequency
0
10
20
30
40
50
60
70
100
200
300
400
500
600
700
Passenger count
Untitled - R Editor
data("AirPassenge
hist(AirPassenge
Search
ENG
IN
21:47
26-02-2025


RGui - [R Graphics: Device 2 (ACTIVE)]
File History Resize Windows
Line Chart of mpg and qsec
mpg
qsec
Miles per Gallon
10
15
20
25
30
0
5
10
15
20
25
30
Index
Search
ENG
IN
21:55
26-02-2025

RGui

File Edit View Misc Packages Windows Help

R Graphics: Device 2 (ACTIVE)



R Console

```
[1] -1.328157
> data("AirPassengers")
> hist(AirPassengers, breaks = seq(100, 700, by = 150), col = "blue", main=" Hi$
> data("mtcars")
>
> plot(mtcars$mpg, type = "l", col = "blue", xlab = "Index", ylab = "Miles per $
> lines(mtcars$qsec, col = "red")
> legend("topright", legend = c("mpg", "qsec"), col = c("blue", "red"), lty = 1$
> data("iris")
> str(iris)
'data.frame':   150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species     : Factor w/ 3 levels "setosa","versicolor",..: 1 1 1 1 1 1 1 1 1$
> plot(iris$Sepal.Length, iris$Petal.Length, main = "Scatter plot of Sepal.Leng$
> model <- lm(Petal.Length ~ Sepal.Length, data = iris)
> abline(model, col = "red")
> new_data <- data.frame(Sepal.Length = 5.5)
> predicted_Petal_Length <- predict(model, newdata = new_data)
> predicted_Petal_Length
       1
3.119938
>
```

Untitled - R Editor

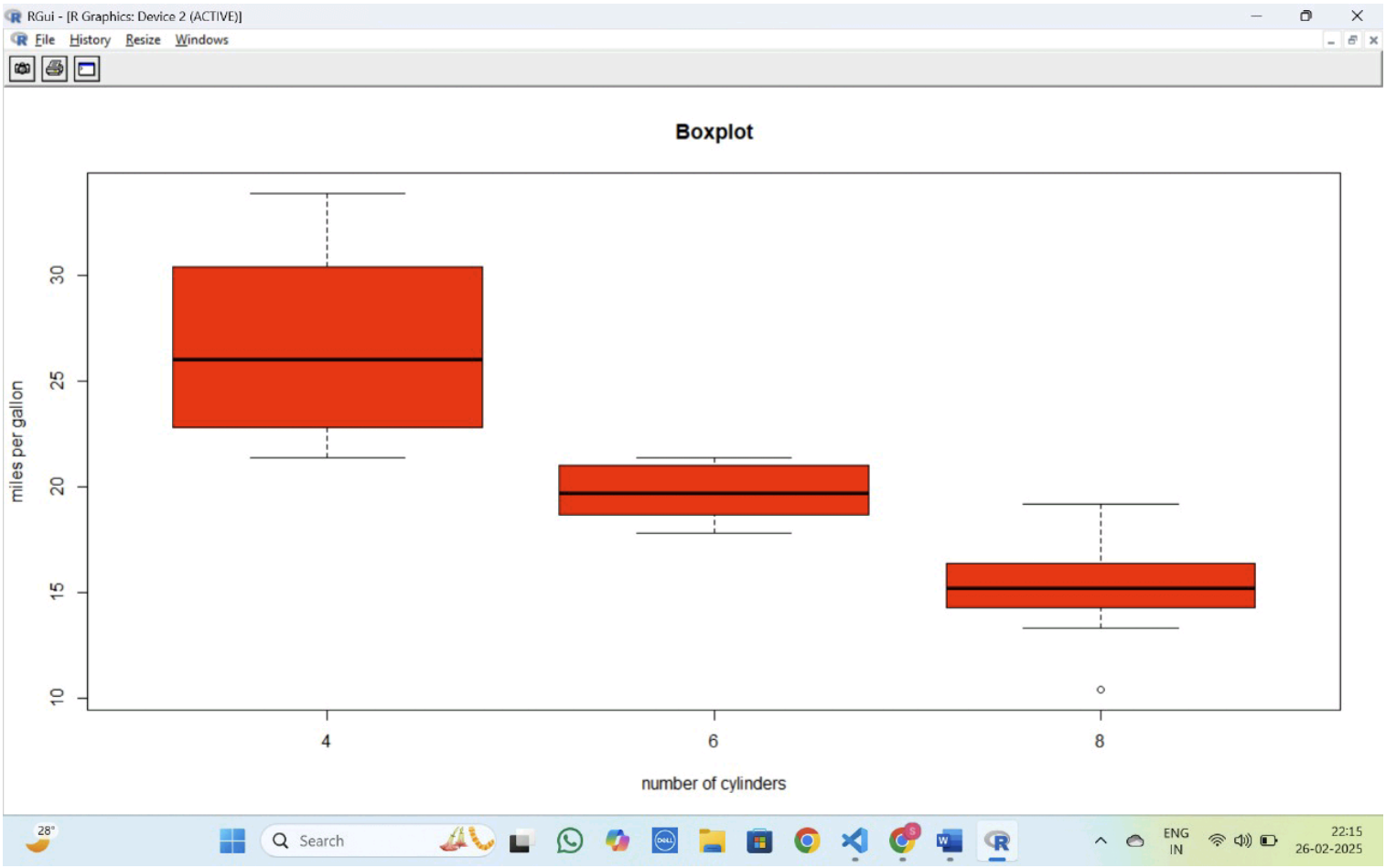
Untitled - R Editor

28°

Search

ENG
IN

22:06
26-02-2025


RGui - [R Graphics: Device 2 (ACTIVE)]
File History Resize Windows
Boxplot
miles per gallon
10
15
20
25
30
4
6
8
number of cylinders
Search
ENG
IN
22:15
26-02-2025

RGui - [R Console]

File Edit View Misc Packages Windows Help

```
> min_value <- 50000
> max_value <- 100000
> v <- 80
> min_max_normalized <- (v - min_value) / (max_value - min_value)
> min_max_normalized
[1] -0.9984
> mean_value <- mean(data)
> standard_deviation <- sd(data)
> z_score_normalized <- (v - mean_value) / standard_deviation
> z_score_normalized
[1] -1.328157
> data("AirPassengers")
> hist(AirPassengers, breaks = seq(100, 700, by = 150), col = "blue", main=" Histogram for Airpassengers", xlab = "Passenger count", ylab = "Frequency")
> data("mtcars")
>
> plot(mtcars$mpg, type = "l", col = "blue", xlab = "Index", ylab = "Miles per Gallon", main = "Line Chart of mpg and qsec")
> lines(mtcars$qsec, col = "red")
> legend("topright", legend = c("mpg", "qsec"), col = c("blue", "red"), lty = 1, cex = 0.8)
> data("iris")
> str(iris)
'data.frame':   150 obs. of  5 variables:
 $ Sepal.Length: num  5.1 4.9 4.7 4.6 5 5.4 4.6 5 4.4 4.9 ...
 $ Sepal.Width : num  3.5 3 3.2 3.1 3.6 3.9 3.4 3.4 2.9 3.1 ...
 $ Petal.Length: num  1.4 1.4 1.3 1.5 1.4 1.7 1.4 1.5 1.4 1.5 ...
 $ Petal.Width : num  0.2 0.2 0.2 0.2 0.2 0.4 0.3 0.2 0.2 0.1 ...
 $ Species     : Factor w/ 3 levels "setosa","versicolor",..: 1 1 1 1 1 1 1 1 1 1 ...
> plot(iris$Sepal.Length, iris$Petal.Length, main = "Scatter plot of Sepal.Length vs. Petal.Length",xlab = "Sepal.Length", ylab = "Petal.Length", col = "bl$
> model <- lm(Petal.Length ~ Sepal.Length, data = iris)
> abline(model, col = "red")
> new_data <- data.frame(Sepal.Length = 5.5)
> predicted_Petal_Length <- predict(model, newdata = new_data)
> predicted_Petal_Length
       1
3.119938
> data("mtcars")
> boxplot(mpg ~ cyl, data = mtcars, main = "Boxplot", xlab = "number of cylinders", ylab = "miles per gallon", col= "red")
> score <- c(20, 25, 30, 32, 35, 38, 40, 45, 50, 52, 55, 56, 58, 59, 60, 62, 65, 70, 75, 80, 85)
>
> boxplot(score, col = "lightblue", main = "Box Plot of Points Scored by Tennis Players", ylab = "Points Scored")
>
```

28° Search ENG IN 22:22 26-02-2025