DAY 2 LIST OF EXPERIMENTS

EXPERIMENT NO:01

Code:

**# Step 1: Define the data**

**age\_groups <- c("5-6 years", "7-8 years", "9-10 years")**

**photograph\_A <- c(18, 2, 20)**

**photograph\_B <- c(22, 28, 10)**

**photograph\_C <- c(20, 40, 40)**

**# Step 2: Create a matrix with the data**

**preferences\_matrix <- matrix(c(photograph\_A, photograph\_B, photograph\_C), nrow = 3, byrow = TRUE)**

**# Step 3: Calculate covariance between B and C**

**covariance\_BC <- cov(photograph\_B, photograph\_C)**

**# Step 4: Calculate the sample covariance matrix for the preferences**

**covariance\_matrix <- cov(preferences\_matrix)**

**# Step 5: Calculate correlation between B and C**

**correlation\_BC <- cor(photograph\_B, photograph\_C)**

**# Step 6: Calculate the sample correlation matrix for the preferences**

**correlation\_matrix <- cor(preferences\_matrix)**

**# Step 7: Print results**

**print("Covariance between B and C:")**

**print(covariance\_BC)**

**print("Sample Covariance Matrix for the preferences:")**

**print(covariance\_matrix)**

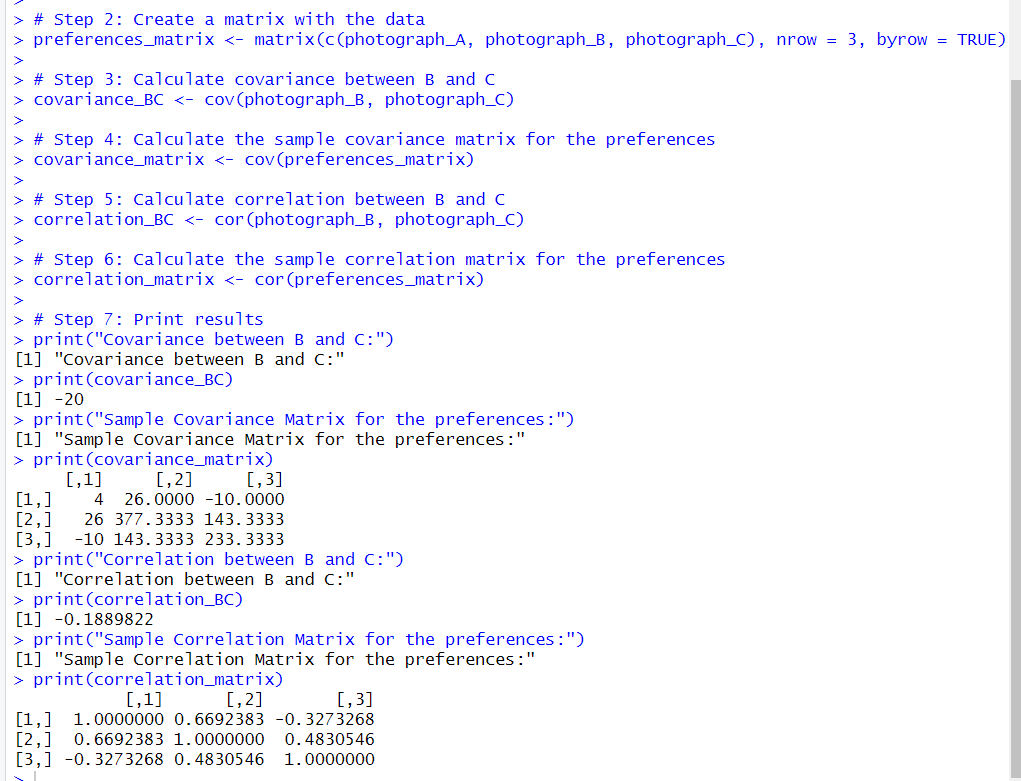
**print("Correlation between B and C:")**

**print(correlation\_BC)**

**print("Sample Correlation Matrix for the preferences:")**

**print(correlation\_matrix)**

OUTPUT:



EXPERIMENT NO:02

Code:

**# Step 1: Define the data**

**age\_groups <- c("5-6 years", "7-8 years", "9-10 years")**

**photograph\_A <- c(18, 2, 20)**

**photograph\_B <- c(22, 28, 10)**

**photograph\_C <- c(20, 40, 40)**

**# Step 2: Create a matrix with the data**

**preferences\_matrix <- matrix(c(photograph\_A, photograph\_B, photograph\_C), nrow = 3, byrow = TRUE)**

**# Step 3: Calculate covariance between B and C**

**covariance\_BC <- cov(photograph\_B, photograph\_C)**

**# Step 4: Calculate the sample covariance matrix for the preferences**

**covariance\_matrix <- cov(preferences\_matrix)**

**# Step 5: Calculate correlation between B and C**

**correlation\_BC <- cor(photograph\_B, photograph\_C)**

**# Step 6: Calculate the sample correlation matrix for the preferences**

**correlation\_matrix <- cor(preferences\_matrix)**

**# Step 7: Print results**

**print("Covariance between B and C:")**

**print(covariance\_BC)**

**print("Sample Covariance Matrix for the preferences:")**

**print(covariance\_matrix)**

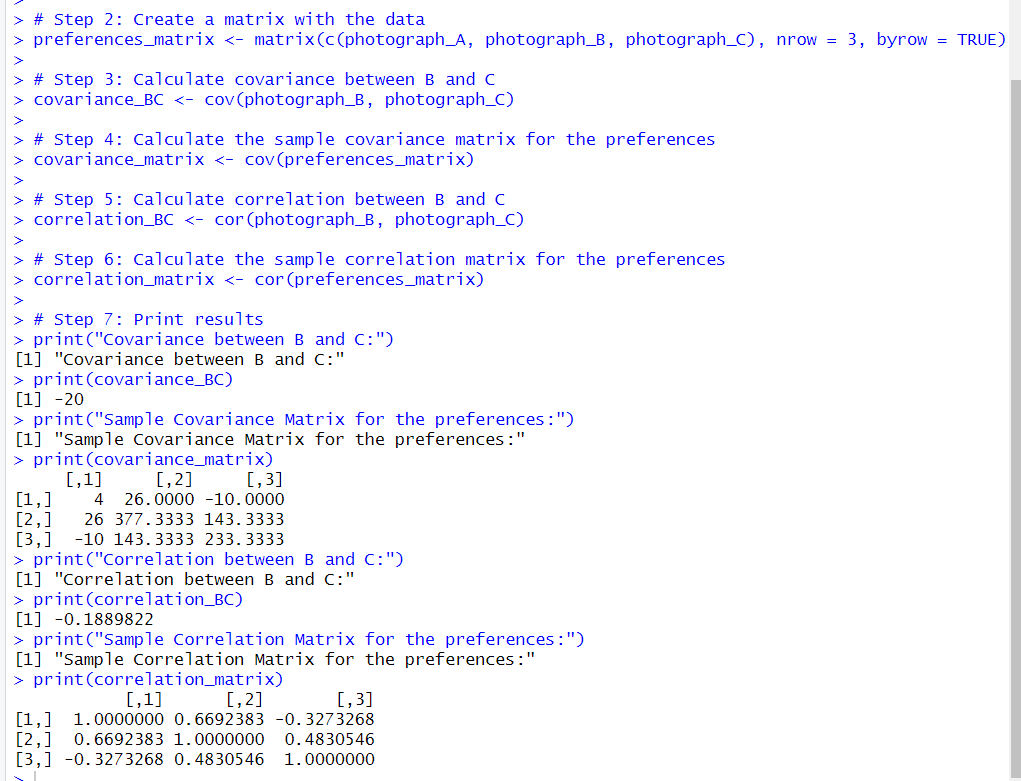
**print("Correlation between B and C:")**

**print(correlation\_BC)**

**print("Sample Correlation Matrix for the preferences:")**

**print(correlation\_matrix)**

OUTPUT:



EXPERIMENT NO:03

Code:

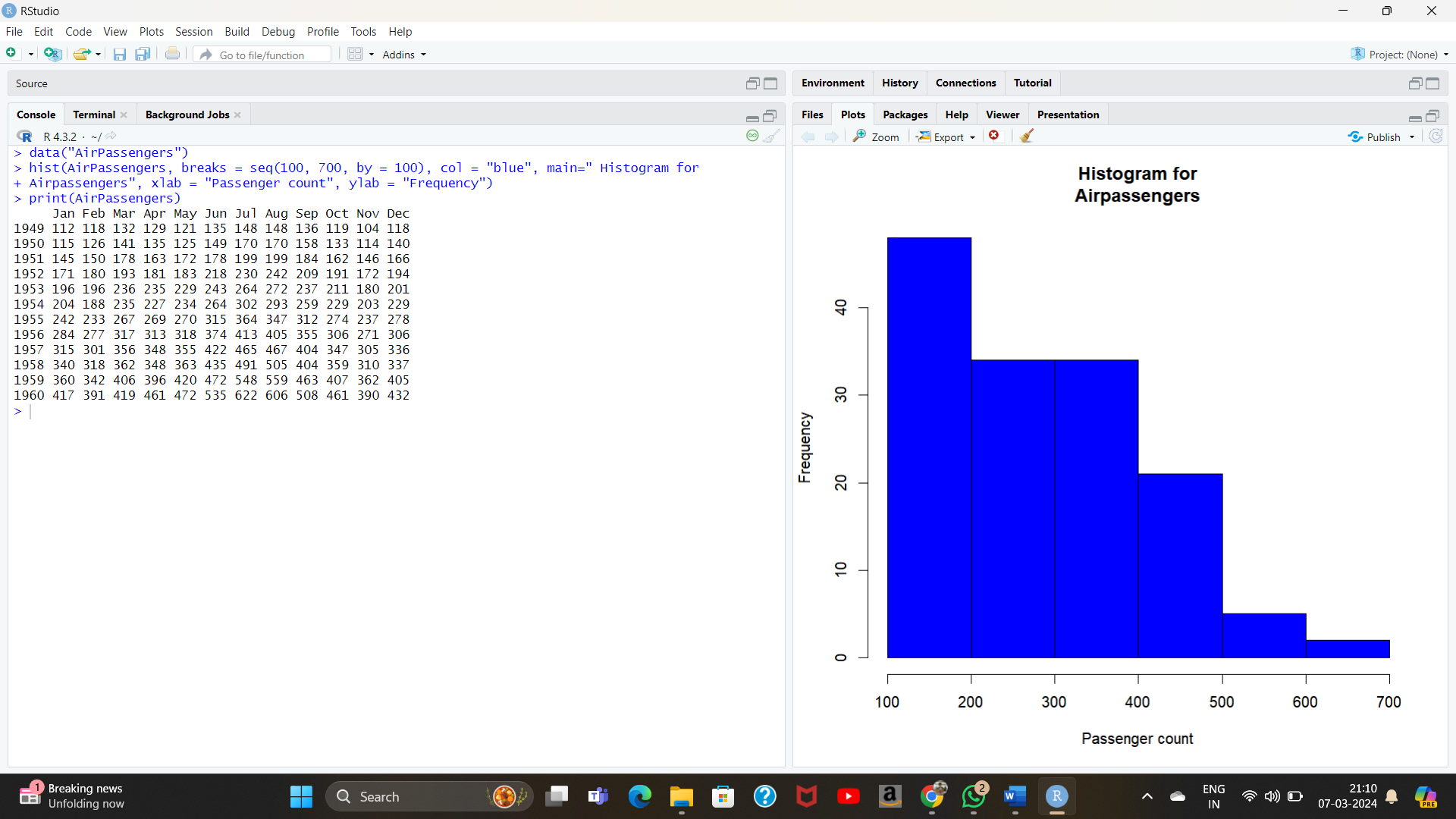
**data("AirPassengers")**

**hist(AirPassengers, breaks = seq(100, 700, by = 100), col = "blue", main=" Histogram for**

**Airpassengers", xlab = "Passenger count", ylab = "Frequency")**

**print(AirPassengers)**

OUTPUT:

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EXPERIMENT NO:04

Code:

**# Load the dataset**

**data(mtcars)**

**# Create an empty plot with the first set of data**

**plot(mtcars$mpg, type = "l", col = "blue", ylim = range(c(mtcars$mpg, mtcars$qsec)),**

**xlab = "Index", ylab = "Value")**

**# Add the second set of data as another line**

**lines(mtcars$qsec, col = "red")**

**# Add a legend**

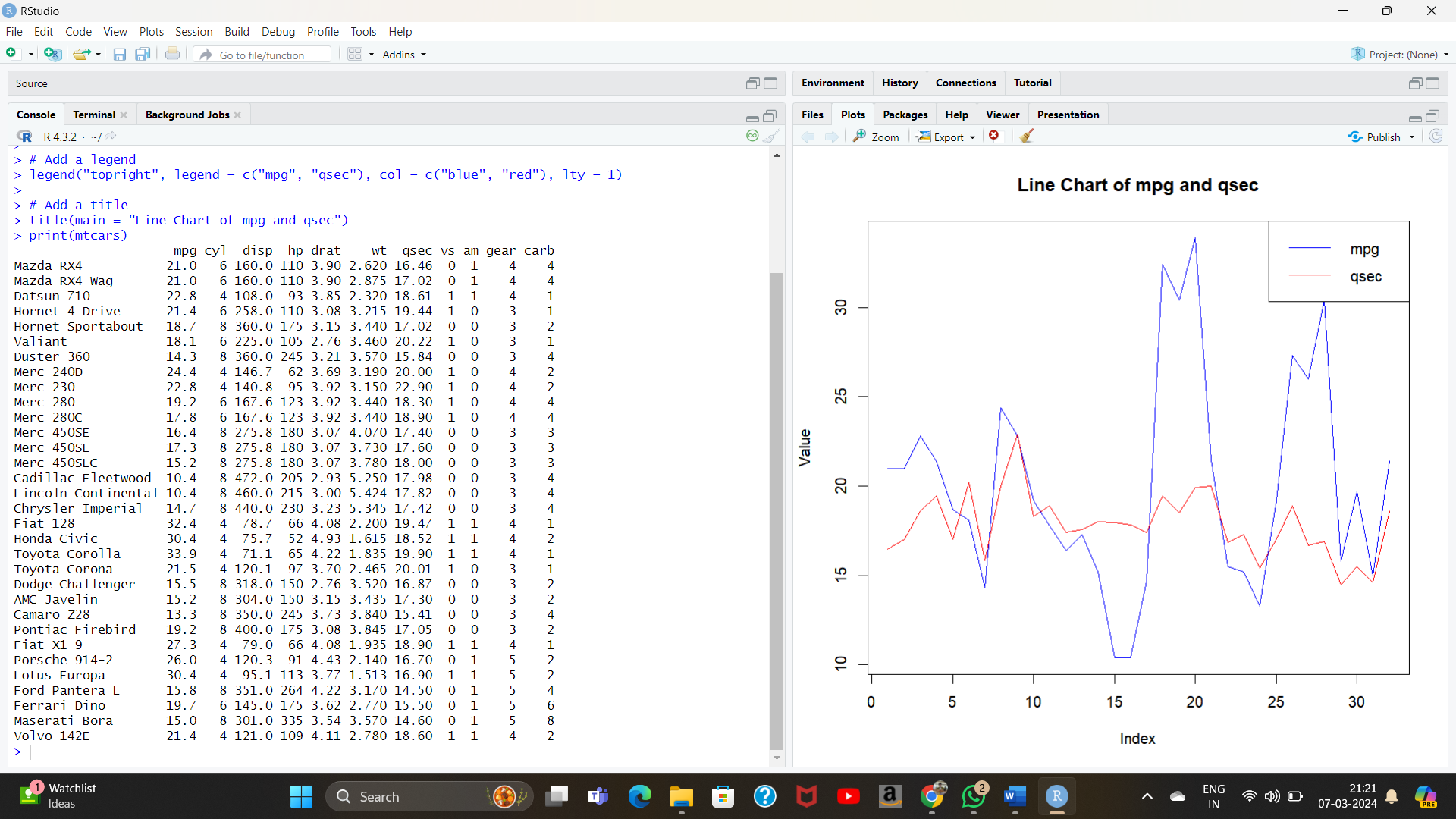
**legend("topright", legend = c("mpg", "qsec"), col = c("blue", "red"), lty = 1)**

**# Add a title**

**title(main = "Line Chart of mpg and qsec")**

**print(mtcars)**

OUTPUT:



EXPERIMENT NO:05

Code:

**# Load the dataset**

**data(mtcars)**

**# Create a boxplot**

**boxplot(mpg ~ cyl, data = mtcars,**

**xlab = "Number of Cylinders",**

**ylab = "Miles per Gallon",**

**main = "Boxplot of Miles per Gallon by Number of Cylinders")**

**gprint(mtcars)**

OUTPUT:

