

Tutorial 1 memo

Dr. Niladri Chakraborty

```
# Load the dataset
data("mtcars")

# Calculate basic statistics for mpg
mean_mpg = mean(mtcars$mpg)
median_mpg = var(mtcars$mpg)
sd_mpg = sd(mtcars$mpg)

# Print the statistics
cat("Mean of mpg:", mean_mpg, "\n")

## Mean of mpg: 20.09062

cat("Variance of mpg:", median_mpg, "\n")

## Variance of mpg: 36.3241

cat("Standard deviation of mpg:", sd_mpg, "\n")

## Standard deviation of mpg: 6.026948
```

Interpretation of Basic Statistics

Mean of mpg: Reflects the average fuel efficiency across all cars in the dataset. Variance of mpg: Represents the variation of fuel efficiency. Standard deviation of mpg: Indicates how spread out the fuel efficiency values are from the average. A higher value suggests greater variability.

Q2.

```
A = matrix(1:16, nrow = 4) # 4x4 matrix
B = matrix(17:32, nrow = 4) # 4x4 matrix

# Expected result: C should be a 2x2 matrix

sum(A[3,]*B[,4])

## [1] 1118
```

The element in matrix C is 1118.