

Program :-

```
data <- read.csv("C:/Users/moosa/Desktop/R programming/Iris.csv")

Mean <- function(datas){
  mean <- sum(datas)/length(datas)
  return(mean)
}

Median <- function(datas) {
  sorted_data <- sort(datas)
  n <- length(sorted_data)
  if (n %% 2 != 0) {
    median_index <- (n - 1) / 2
    return(sorted_data[median_index + 1])
  } else {
    median_index_1 <- n / 2
    median_index_2 <- n / 2 + 1
    return((sorted_data[median_index_1] + sorted_data[median_index_2]) / 2)
  }
}

mode <- function(datas) {
  freq_table <- table(datas)
  max_freq <- max(freq_table)
  modes <- as.numeric(names(freq_table)[freq_table == max_freq])
  return(modes)
}

std <- function(datas){
  n <- length(datas)
  mean_value <- Mean(datas)
  square_sum <- sum((datas - mean_value)^2)
  standard_dev <- sqrt((square_sum / (n-1)))
  return(standard_dev)
}

cat("Min of SepalLength : ",min(data$SepalLengthCm),"\\n")
cat("Max of SepalLength : ",max(data$SepalLengthCm),"\\n")
cat("Mean of SepalLength : ",Mean(data$SepalLengthCm),"\\n")
cat("Median of SepalLength : ", Median(data$SepalLengthCm), "\\n")
cat("Mode of SepalLength : ", mode(data$SepalLengthCm), "\\n")
cat("Standard Deviation of SepalLength : ", std(data$SepalLengthCm), "\\n\\n")

cat("Min of SepalWidth : ",min(data$SepalWidthCm),"\\n")
cat("Max of SepalWidth : ",max(data$SepalWidthCm),"\\n")
cat("Mean of SepalWidth : ",Mean(data$SepalWidthCm),"\\n")
cat("Median of SepalLength : ", Median(data$SepalWidthCm), "\\n")
cat("Mode of SepalLength : ", mode(data$SepalWidthCm), "\\n")
cat("Standard Deviation of SepalLength : ", std(data$SepalWidthCm), "\\n\\n")
cat("Min of PetalLength : ",min(data$PetalLengthCm),"\\n")
cat("Max of PetalLength : ",max(data$PetalLengthCm),"\\n")
cat("Mean of PetalLength : ",Mean(data$PetalLengthCm),"\\n")
cat("Median of PetalLength : ", Median(data$PetalLengthCm), "\\n")
cat("Mode of PetalLength : ", mode(data$PetalLengthCm), "\\n")
cat("Standard Deviation of PetalLength : ", std(data$PetalLengthCm), "\\n\\n")
```

```

cat("Min of PetalWidth : ",min(data$PetalWidthCm),"\\n")
cat("Max of PetalWidth : ",max(data$PetalWidthCm),"\\n")
cat("Mean of PetalWidth : ",Mean(data$PetalWidthCm),"\\n")
cat("Median of PetalWidth : ", Median(data$PetalWidthCm), "\\n")
cat("Mode of PetalWidth : ", mode(data$PetalWidthCm), "\\n")
cat("Standard Deviation of PetalWidth : ", std(data$PetalWidthCm), "\\n\\n")

```

Output :-

Min of SepalLength : 4.3
 Max of SepalLength : 7.9
 Mean of SepalLength : 5.843333
 Median of SepalLength : 5.8
 Mode of SepalLength : 5
 Standard Deviation of SepalLength : 0.8280661

Min of SepalWidth : 2
 Max of SepalWidth : 4.4
 Mean of SepalWidth : 3.054
 Median of SepalLength : 3
 Mode of SepalLength : 3
 Standard Deviation of SepalLength : 0.4335943

Min of PetalLength : 1
 Max of PetalLength : 6.9
 Mean of PetalLength : 3.758667
 Median of PetalLength : 4.35
 Mode of PetalLength : 1.5
 Standard Deviation of PetalLength : 1.76442

Min of PetalWidth : 0.1
 Max of PetalWidth : 2.5
 Mean of PetalWidth : 1.198667
 Median of PetalWidth : 1.3
 Mode of PetalWidth : 0.2
 Standard Deviation of PetalWidth : 0.7631607

