EX NO: 1

```r
#Read data set
i<-read.csv('Iris.csv')

d<-read.csv('demographics_corrected.csv')


#Create vectors for Age, Diastolic pressure, and Systolic pressure
Age <- c(35, 65, 49, 30, 20, 40, 90, 54, 78, 45)

Systolic <- c(122, 120, 120, 115, 130, 131, 118, 122, 120, 115)

Diastolic <- c(83, 79, 78, 72, 90, 90, 82, 80, 82, 75)


#Calculate the following statistics for each variable
statistics <- function(x) {
  n <- length(x)

  min_val <- min(x)

  max_val <- max(x)

  median_val <- median(x)

  mean_val <- mean(x)

  var_val <- var(x)

  sd_val <- sd(x)


  return(c(n, min_val, max_val, median_val, mean_val, var_val, sd_val))
}
Age_stats <- statistics(Age)

Systolic_stats <- statistics(Systolic)

Diastolic_stats <- statistics(Diastolic)


results <- data.frame(
  Statistic = c("Number of samples", "Minimum value", "Maximum value", "Median", "Mean", "Variance", "Standard deviation"),

  Age = Age_stats,
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  Systolic = Systolic_stats,

  Diastolic = Diastolic_stats

)


#Present the results in a table format

print(results)


#View first 6 rows

head(i,6)

tail(i,6)


#Statistical summary

data(i)

summary(i)


#Mean petal width of the Iris versicolor species

versicolor_data <- iris[iris$Species == "versicolor", ]

mean_petal_width <- mean(versicolor_data$Petal.Width)

print(mean_petal_width)


# Create a histogram of petal width

hist(iris$Petal.Width,

    main = "Histogram of Petal Width",

    xlab = "Petal Width",

    ylab = "Frequency",

    col = "skyblue",

    border = "white")


# Calculate mean, median, variance, and standard deviation of sepal length for each species

summary_stats <- aggregate(Sepal.Length ~ Species, data = iris,

              FUN = function(x) c(mean = mean(x),
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                    median = median(x),

                    variance = var(x),

                    std_deviation = sd(x)))


print(summary_stats)


# Calculate mean, median, variance, and standard deviation of sepal length for each species
library(dplyr)
library(tidyr)
library(knitr)
summary_stats <- iris %>%
  group_by(Species) %>%
  summarise(mean_sepal_length = mean(Sepal.Length),
        median_sepal_length = median(Sepal.Length),
        variance_sepal_length = var(Sepal.Length),
        sd_sepal_length = sd(Sepal.Length))
kable(summary_stats, caption = "Summary Statistics of Sepal Length by Species")
```