WEEK1 ASSIGNEMT

Shadan Khan

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info\_string <- "Name: Shadan Khan, Unit Name: Statical Data Analysis, Task Name: T01.P1"  
  
print(info\_string)

## [1] "Name: Shadan Khan, Unit Name: Statical Data Analysis, Task Name: T01.P1"

data(iris)  
  
head(iris)

## Sepal.Length Sepal.Width Petal.Length Petal.Width Species  
## 1 5.1 3.5 1.4 0.2 setosa  
## 2 4.9 3.0 1.4 0.2 setosa  
## 3 4.7 3.2 1.3 0.2 setosa  
## 4 4.6 3.1 1.5 0.2 setosa  
## 5 5.0 3.6 1.4 0.2 setosa  
## 6 5.4 3.9 1.7 0.4 setosa

num\_observations <- nrow(iris)  
print(paste("Number of observations:", num\_observations))

## [1] "Number of observations: 150"

num\_variables <- ncol(iris)  
print(paste("Number of variables:", num\_variables))

## [1] "Number of variables: 5"

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 ...

summarize\_variables <- function(data) {  
 for (variable in names(data)) {  
 cat("Variable:", variable, "\n")  
 if (is.factor(data[[variable]])) {  
 cat("Categorical summary:\n")  
 print(table(data[[variable]]))  
 } else if (is.numeric(data[[variable]])) {  
 cat("Mean:", mean(data[[variable]], na.rm = TRUE), "\n")  
 }  
 cat("\n")  
 }  
}  
  
summarize\_variables(iris)

## Variable: Sepal.Length   
## Mean: 5.843333   
##   
## Variable: Sepal.Width   
## Mean: 3.057333   
##   
## Variable: Petal.Length   
## Mean: 3.758   
##   
## Variable: Petal.Width   
## Mean: 1.199333   
##   
## Variable: Species   
## Categorical summary:  
##   
## setosa versicolor virginica   
## 50 50 50