RworkSheet#4B><

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```
vectorA <- c(1, 2, 3, 4, 5)
matrixA <- matrix(0, nrow = 5, ncol = 5)

for (i in 1:5) {
  for (j in 1:5) {
    matrixA[i, j] <- abs(vectorA[i] - vectorA[j])
  }
}
matrixA
```

```
##      [,1] [,2] [,3] [,4] [,5]
## [1,]    0    1    2    3    4
## [2,]    1    0    1    2    3
## [3,]    2    1    0    1    2
## [4,]    3    2    1    0    1
## [5,]    4    3    2    1    0
```

```
n <- 5  # The number of rows

for (i in 1:n) {
  for (j in 1:i) {
    cat("*")
  }
  cat("\n")
}
```

```
## *
## **
## ***
## ****
## *****
```

```
input_number <- as.numeric(readline("Enter a number to start the Fibonacci sequence: "))
```

```
## Enter a number to start the Fibonacci sequence:
```

```
assume_number <- 0
a <- 0
b <- 1

repeat {

  if (a > 500) {
    break
  }
```

```
  if (a >= assume_number) {
    cat(a, " ")
  }

  temp <- a + b
  a <- b
  b <- temp
}
```

```
## 0  1  1  2  3  5  8  13  21  34  55  89  144  233  377
```

```
cat("\n")
```

```
table <- read.table(file = 'shoesize.csv', header = TRUE, sep = ',')
table
```

```
##    Shoe.Size Height Gender
## 1        6.5   66.0      F
## 2        9.0   68.0      F
## 3        8.5   64.5      F
## 4        8.5   65.0      F
## 5       10.5   70.0      M
## 6        7.0   64.0      F
## 7        9.5   70.0      F
## 8        9.0   71.0      F
## 9       13.0   72.0      M
## 10       7.5   64.0      F
## 11      10.5   74.5      M
## 12       8.5   67.0      F
## 13      12.0   71.0      M
## 14      10.5   71.0      M
## 15      13.0   77.0      M
## 16      11.5   72.0      M
## 17       8.5   59.0      F
## 18       5.0   62.0      F
## 19      10.0   72.0      M
## 20       6.5   66.0      F
## 21       7.5   64.0      F
## 22       8.5   67.0      M
## 23      10.5   73.0      M
## 24       8.5   69.0      F
## 25      10.5   72.0      M
## 26      11.0   70.0      M
## 27       9.0   69.0      M
## 28      13.0   79.0      M
```

```
head(table, n = 6)
```

```
##   Shoe.Size Height Gender
## 1       6.5   66.0      F
## 2       9.0   68.0      F
## 3       8.5   64.5      F
## 4       8.5   65.0      F
## 5      10.5   70.0      M
```

```
## 6       7.0   64.0      F
```

```
male_subset <- subset(table, Gender == "M")
female_subset <- subset(table, Gender == "F")
male_count <- nrow(male_subset)
female_count <- nrow(female_subset)
cat("Number of Male observations:", male_count, "\n")
```

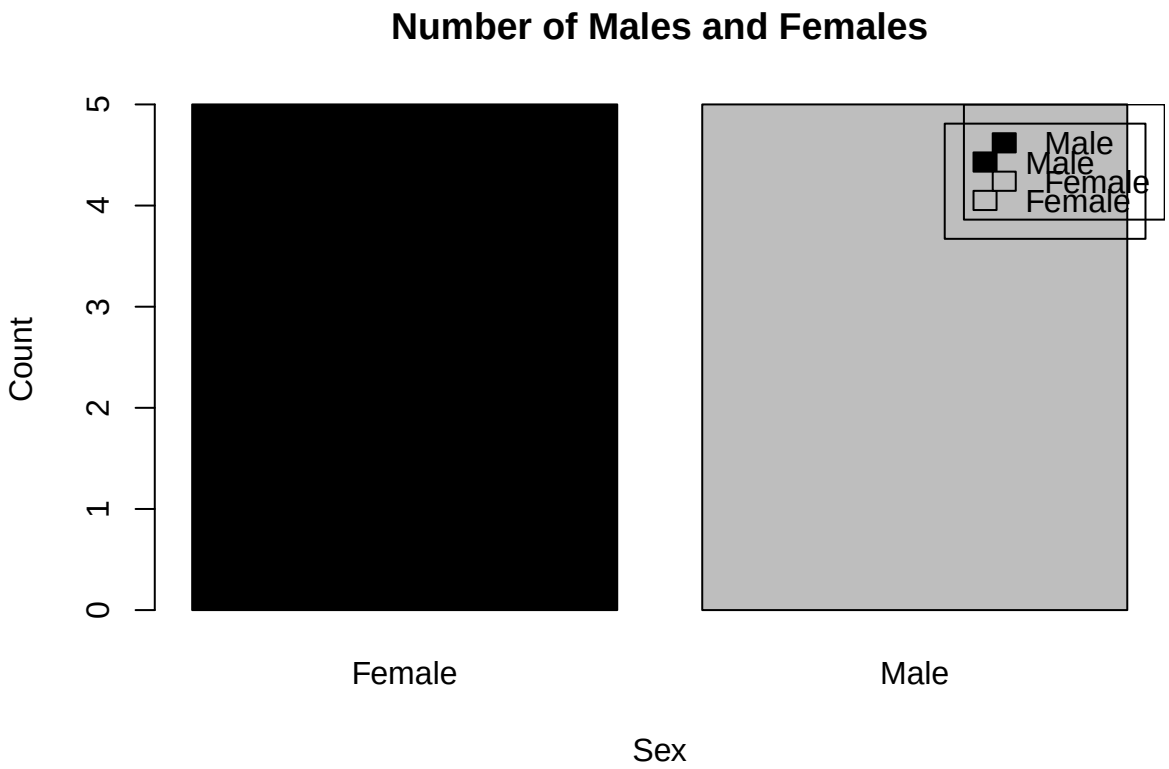
```
## Number of Male observations: 14
```

```
cat("Number of Female observations:", female_count, "\n")
```

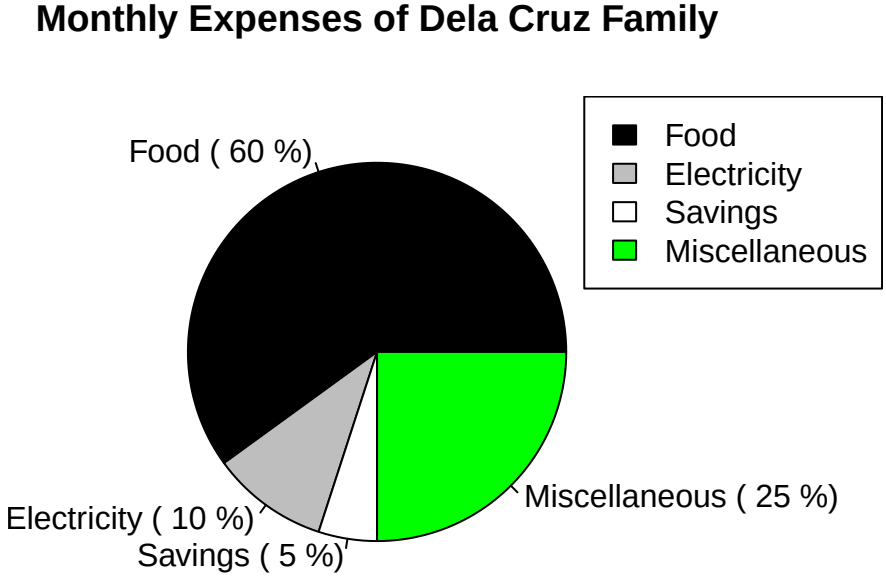
```
## Number of Female observations: 14
```

```
#Number of Male observations: 14
#Number of Female observations: 14
```

```
data <- data.frame(
  Respondents = 1:10,
  Sex = c("Male", "Female", "Female", "Male", "Male", "Female", "Female", "Male", "Female", "Male"),
  Fathers_Occupation = c(1, 2, 3, 3, 1, 2, 2, 3, 1, 3),
  Person_at_Home = c(5, 7, 3, 8, 6, 4, 4, 2, 11, 6),
  Siblings_at_school = c(2, 3, 0, 5, 2, 3, 1, 2, 6, 2),
  Types_of_houses = c("Wood", "Concrete", "Concrete", "Wood", "Semi-Concrete", "Semi-Concrete", "Wood",
)

gender_counts <- table(data$Sex)


bar_colors <- c("black", "gray")

barplot(gender_counts, main="Number of Males and Females", xlab="Sex", ylab="Count", col=bar_colors,
        legend.text=c("Male", "Female"), beside=TRUE)
legend("topright", legend=c("Male", "Female"), fill=bar_colors)
```




```
expenses <- c(Food = 60, Electricity = 10, Savings = 5, Miscellaneous = 25)

pie(expenses, labels = paste(names(expenses), "(", round((expenses/sum(expenses))*100), "%)"),
    col = c("black", "gray", "white", "green"),
    main = "Monthly Expenses of Dela Cruz Family")

legend("topright", legend = names(expenses), fill = c("black", "gray", "white", "green"))
```



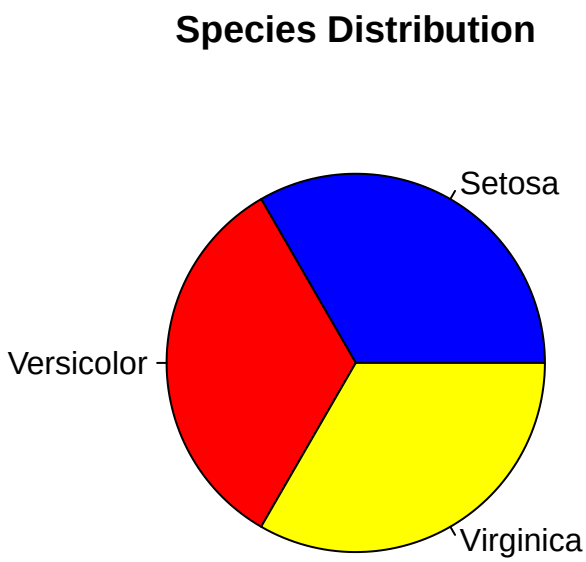

```
data(iris)
str(iris)
```

```
## '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 ...
```

```
mean_values <- c(mean(iris$Sepal.Length),
mean(iris$Sepal.Width),
mean(iris$Petal.Length),
mean(iris$Petal.Width))
```

```
pie(table(iris$Species), labels = c("Setosa", "Versicolor", "Virginica"), col = c("blue", "red", "yellow
```




```
setosa_data <- iris[iris$Species == "setosa", ]
versicolor_data <- iris[iris$Species == "versicolor", ]
virginica_data <- iris[iris$Species == "virginica", ]

head(setosa_data, 6)
```

```
##   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
```

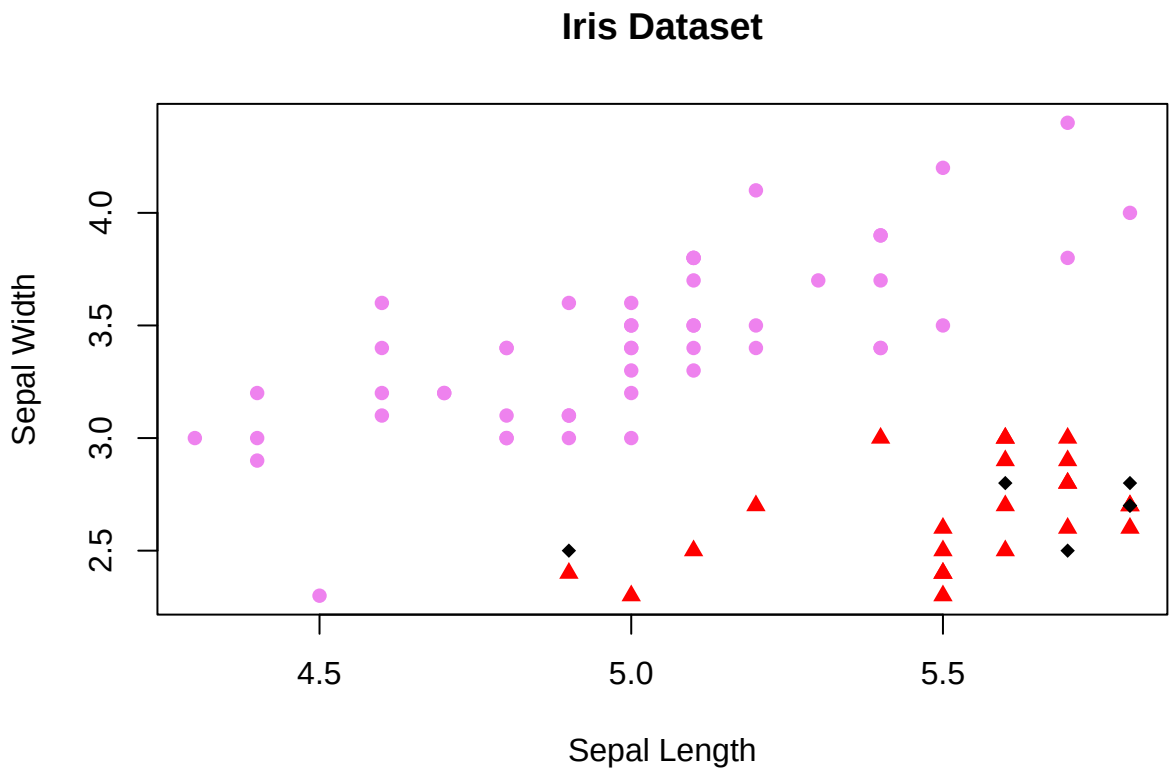
```
head(versicolor_data, 6)
```

```
##    Sepal.Length Sepal.Width Petal.Length Petal.Width    Species
## 51          7.0         3.2          4.7         1.4 versicolor
## 52          6.4         3.2          4.5         1.5 versicolor
## 53          6.9         3.1          4.9         1.5 versicolor
## 54          5.5         2.3          4.0         1.3 versicolor
## 55          6.5         2.8          4.6         1.5 versicolor
## 56          5.7         2.8          4.5         1.3 versicolor
```

```
head(virginica_data, 6)
```

```
##     Sepal.Length Sepal.Width Petal.Length Petal.Width   Species
## 101          6.3         3.3          6.0         2.5 virginica
## 102          5.8         2.7          5.1         1.9 virginica
## 103          7.1         3.0          5.9         2.1 virginica
## 104          6.3         2.9          5.6         1.8 virginica
## 105          6.5         3.0          5.8         2.2 virginica
## 106          7.6         3.0          6.6         2.1 virginica
```

```
plot(x = iris$Sepal.Length[iris$Species == "setosa"], y = iris$Sepal.Width[iris$Species == "setosa"], p
points(x = iris$Sepal.Length[iris$Species == "versicolor"], y = iris$Sepal.Width[iris$Species == "versi
points(x = iris$Sepal.Length[iris$Species == "virginica"], y = iris$Sepal.Width[iris$Species == "virgin
```




```
#The scatterplot shows that, in comparison to the versicolor and virginica  species, the setosa species
```

```
#Can't Find RWorksheet 4B in Drive anymore thats why i cant finish my 4BB
```