

RWorksheet_Marquez#4b

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#1.

```
vectorA <- c(1, 2, 3, 4, 5)
```

```
for (i in vectorA) {  
  print(vectorA)  
}
```

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

```
abs(vectorA)
```

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

#2.

```
rows <- 5
```

```
for (i in 1:rows) {  
  print(strrep(" ", i))  
}
```

```
## [1] "  
## [1] "  
## [1] "  
## [1] "  
## [1] "
```

#3.

```
fibonacci_sequence <- function(start){  
  x <- 0  
  y <- 1
```

```
  repeat {  
    fib <- x+y  
    x <- y  
    y <- fib  
    if (fib >= 500) {  
      break  
    }  
    if (fib >= start) {
```

```

    print(fib)
  }
}
sequencing <- as.numeric(readline(prompt="Enter a Number:"))

## Enter a Number:
if (!is.na(sequencing)<1) {
  print("Please enter a higher number")
} else {
  cat("Fibonacci sequence starting from", sequencing, "up to 500:\n")
  fibonacci_sequence(sequencing)
}

## [1] "Please enter a higher number"
#4a.
data <- read.csv("/cloud/project/RWorkSheet_Marquez#4a/shoe_size_data.csv")
head(data)

##   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

#4b.
female_data <- subset(data, Gender == "F")
male_data <- subset(data, Gender == "M")

num_females <- nrow(female_data)
num_males <- nrow(male_data)

cat("Number of Females:", num_females, "\n")

## Number of Females: 13
cat("Number of Males:", num_males, "\n")

## Number of Males: 15

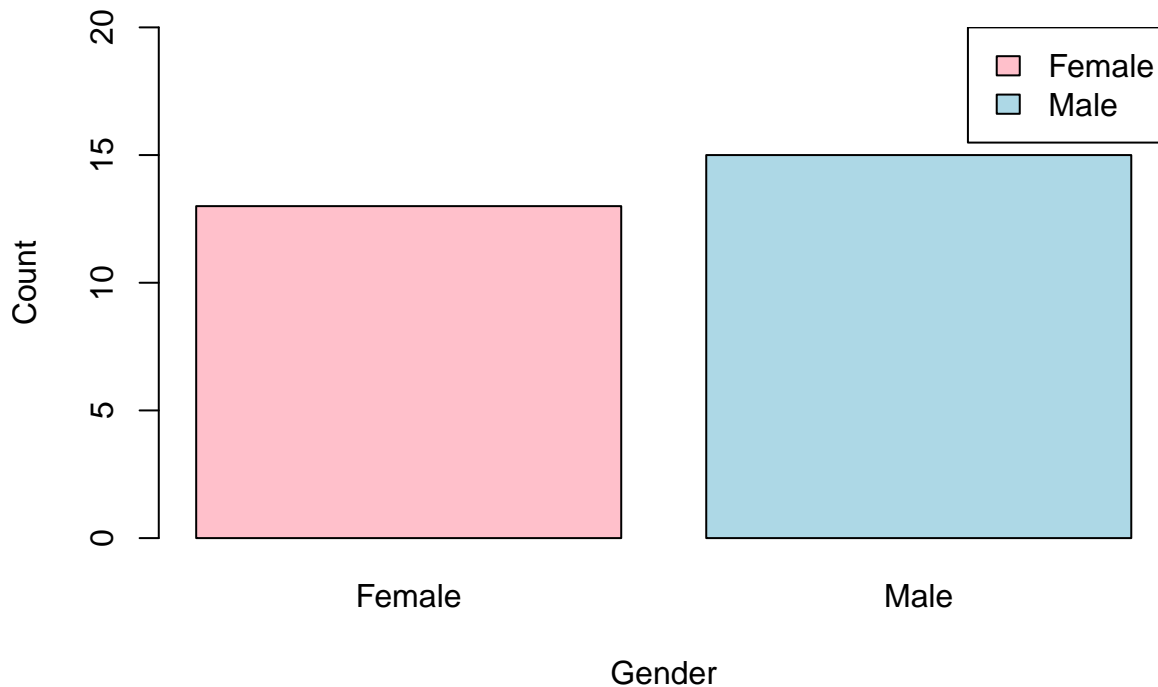
#4c.
counts <- c(num_females, num_males)
names(counts) <- c("Female", "Male")

barplot(counts,
  main = "Number of Males and Females",
  col = c("pink", "lightblue"),
  ylim = c(0, max(counts) + 5), # Adjust y-axis limit
  ylab = "Count",
  xlab = "Gender")

```

```
legend("topright", legend = names(counts), fill = c("pink", "lightblue"))
```

Number of Males and Females

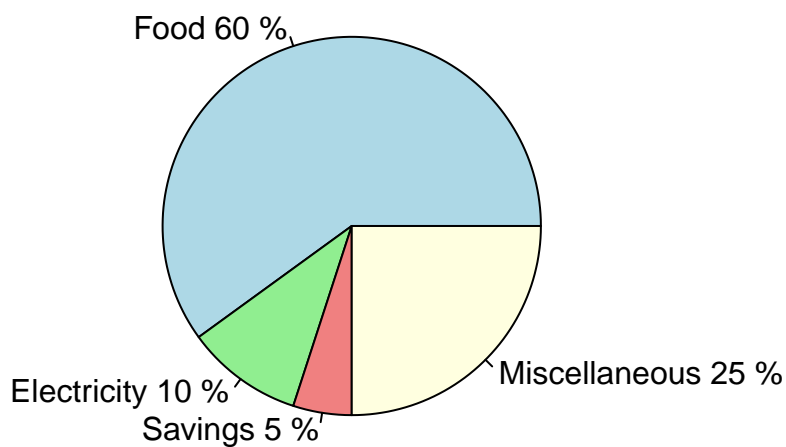


#5a.

```
expenses <- c(Food = 60, Electricity = 10, Savings = 5, Miscellaneous = 25)
percentages <- round(expenses / sum(expenses) * 100, 1)
labels <- paste(names(expenses), percentages, "%", sep = " ")
colors <- c("lightblue", "lightgreen", "lightcoral", "lightyellow")

pie(expenses, labels = labels, col = colors, main = "Dela Cruz Family Monthly Expenses")
```

Dela Cruz Family Monthly Expenses



#6a.

```
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 1 ...
```

#6b.

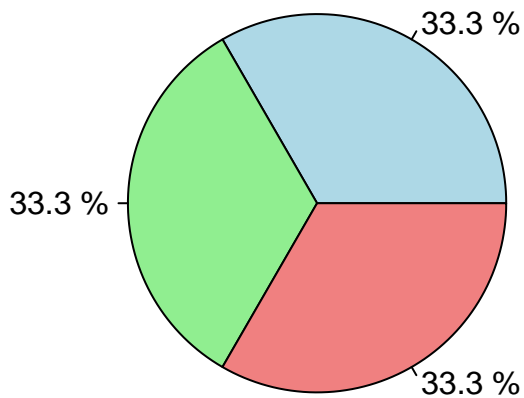
```
mean_values <- c(mean(iris$Sepal.Length), mean(iris$Sepal.Width),
                 mean(iris$Petal.Length), mean(iris$Petal.Width))
mean_values
```

```
## [1] 5.843333 3.057333 3.758000 1.199333
```

#6c.

```
pie(table(iris$Species),
    main="Distribution of Species in Iris Dataset",
    col=c("lightblue", "lightgreen", "lightcoral"),
    labels=paste(round(table(iris$Species)/nrow(iris)*100, 1), "%"))
```

Distribution of Species in Iris Dataset



#6d.

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

tail(setosa, 6)
```

```
## Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 45 5.1 3.8 1.9 0.4 setosa
## 46 4.8 3.0 1.4 0.3 setosa
## 47 5.1 3.8 1.6 0.2 setosa
## 48 4.6 3.2 1.4 0.2 setosa
## 49 5.3 3.7 1.5 0.2 setosa
## 50 5.0 3.3 1.4 0.2 setosa
```

```
tail(versicolor, 6)
```

```
## Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 95 5.6 2.7 4.2 1.3 versicolor
```

```
## 96          5.7          3.0          4.2          1.2 versicolor
## 97          5.7          2.9          4.2          1.3 versicolor
## 98          6.2          2.9          4.3          1.3 versicolor
## 99          5.1          2.5          3.0          1.1 versicolor
## 100         5.7          2.8          4.1          1.3 versicolor
```

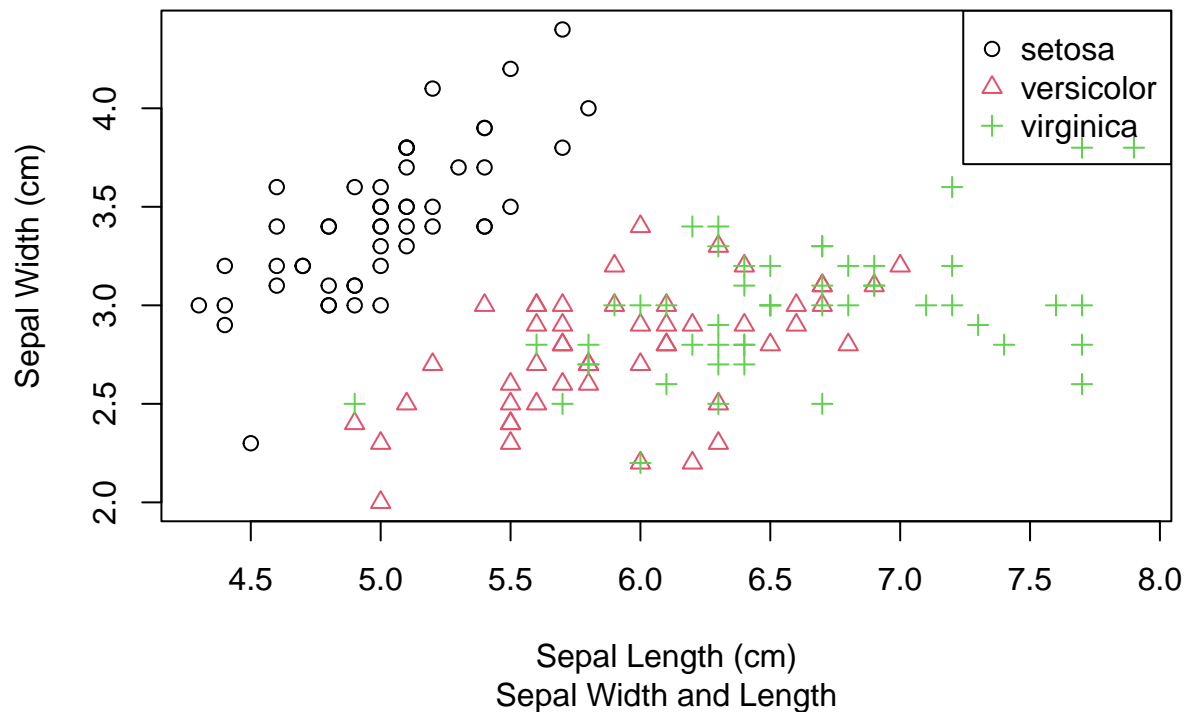
```
tail(virginica, 6)
```

```
##      Sepal.Length Sepal.Width Petal.Length Petal.Width  Species
## 145          6.7          3.3          5.7          2.5 virginica
## 146          6.7          3.0          5.2          2.3 virginica
## 147          6.3          2.5          5.0          1.9 virginica
## 148          6.5          3.0          5.2          2.0 virginica
## 149          6.2          3.4          5.4          2.3 virginica
## 150          5.9          3.0          5.1          1.8 virginica
```

#6e.

```
plot(iris$Sepal.Length, iris$Sepal.Width,
     main="Iris Dataset",
     sub="Sepal Width and Length",
     xlab="Sepal Length (cm)",
     ylab="Sepal Width (cm)",
     pch=as.numeric(iris$Species),
     col=as.numeric(iris$Species))
legend("topright", legend=levels(iris$Species),
      col=1:3, pch=1:3)
```

Iris Dataset



#6f.

#The scatter plot visually represents the relationship between sepal length and sepal width for the thr

#7a.