Rworksheet_Castigador

2023-11-17

1

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

    for (i in 1:5){
    for (j in 1:5){

    yne <- abs(vectorA[i]-j)

    cat(yne," ")
 }
    cat ("\n")
}
```

```
## 0  1  2  3  4
## 1  0  1  2  3
## 2  1  0  1  2
## 3  2  1  0  1
## 4  3  2  1  0
```

2

```
    for (i in 1:5){
    yne <- rep ("*",i)
    print(yne)
}
```

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

3

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

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

```
  a <- 0
  b <- 1

  cat("Fibonacci sequence starting from", userInp, ": ")
```

```
## Fibonacci sequence starting from NA :
```

```
  cat(userInp, " ")
```

```
## NA
```

```
  repeat {

  nextFib <- a + b


  if (nextFib > 500) {
    break
  }

  cat(nextFib, " ")

  a <- b
  b <- nextFib
}
```

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

4

```
  shoesizes <- read.csv("Shoe_Sizes")
```

4b

```
  Male <- shoesizes[shoesizes$Gender=="M",]
  Female <- shoesizes[shoesizes$Gender=="F",]

  male_Count <- nrow(Male)
    female_Count <- nrow(Female)

    cat("Numbers of Male: ", male_Count, "\n")
```

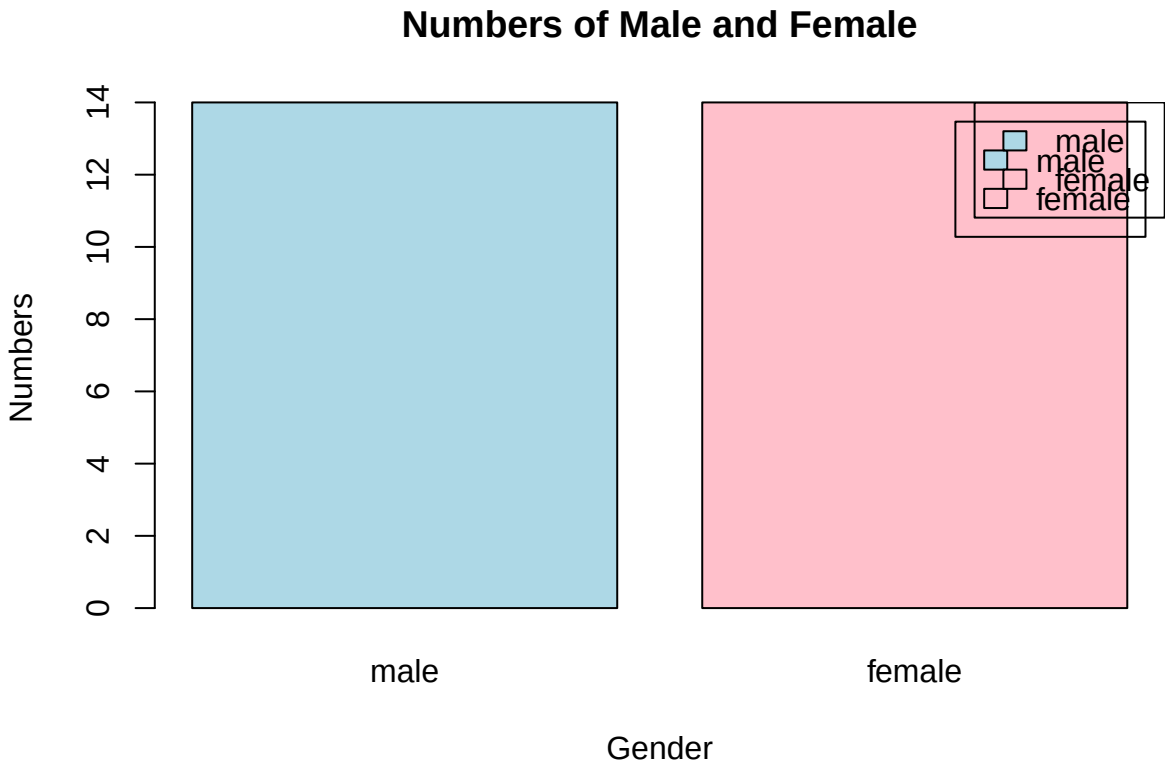
```
## Numbers of Male:  14
```

```
    cat("Numbers of Female: ", female_Count, "\n")
```

```
## Numbers of Female:  14
```

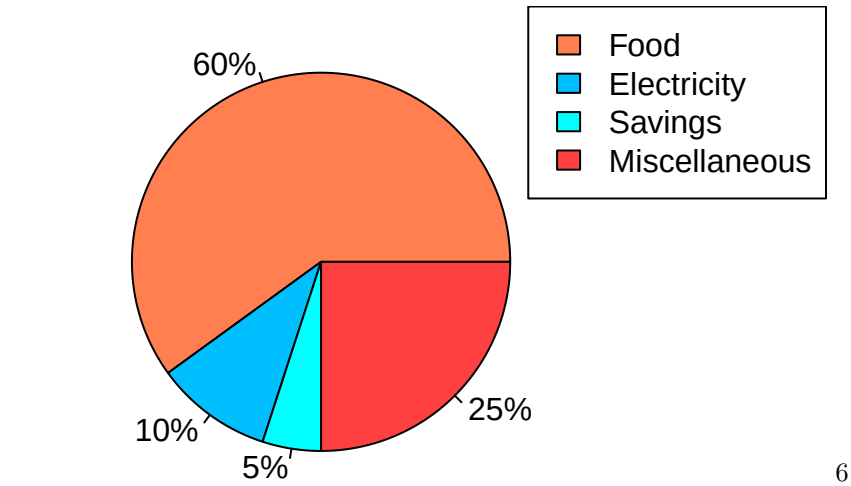
4c

```
  gender_Count <- c(male = male_Count, female = female_Count)

      barplot(gender_Count, main = "Numbers of Male and Female",
              xlab = "Gender", ylab = "Numbers", col = c("lightblue", "pink"),
              legend.text = TRUE)
      legend("topright", legend = names(gender_Count), fill =  c("lightblue", "pink"))
```



5

```
 # Define the data
  dapie <- c(60, 10, 5, 25)
#Create the pie chart
  pie(dapie,
    main = "Monthly Income of Dela Cruz family",
    col = c("coral", "deepskyblue", "cyan", "brown1"),
    labels = c("60%", "10%", "5%","25%"),

)
legend("topright", legend = c("Food", "Electricity", "Savings", "Miscellaneous"), fill =   c("coral", "
```



6

```
        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 ...
```

```
#This output shows the structure of the data(iris) that contains the sepal length, sepal width, petal l
```

6b.

```
    lengthsep <- mean(iris$Sepal.Length)

    widthsep <- mean(iris$Sepal.Width)

    lengthpe <- mean(iris$Petal.Length)

    widthpe <- mean(iris$Petal.Width)


    print(lengthsep)
```

```
## [1] 5.843333
```

```
    print(widthsep)
```

```
## [1] 3.057333
```

```
    print(lengthpe)
```

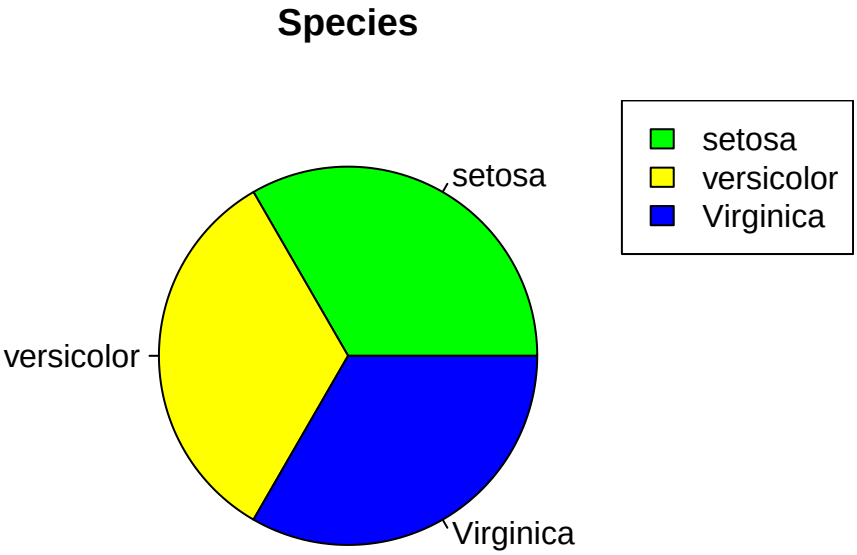
```
## [1] 3.758
```

```
    print(widthpe)
```

```
## [1] 1.199333
```

6c.

```
      specount <- table(iris$Species)

      pie(specount,
          main = "Species",
          col = c("green", "yellow", "blue"),
          labels = c("setosa", "versicolor", "Virginica")
          )
      legend("topright", legend = c("setosa", "versicolor", "Virginica"), fill = c("green", "yellow", "
```



6d.

```
subSpec <- iris[iris$Species == "setosa" | iris$Species == "Versicolor" | iris$Species == "virgini
subSpec
```

```
##     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
## 7            4.6         3.4          1.4         0.3    setosa
## 8            5.0         3.4          1.5         0.2    setosa
## 9            4.4         2.9          1.4         0.2    setosa
## 10           4.9         3.1          1.5         0.1    setosa
## 11           5.4         3.7          1.5         0.2    setosa
## 12           4.8         3.4          1.6         0.2    setosa
## 13           4.8         3.0          1.4         0.1    setosa
## 14           4.3         3.0          1.1         0.1    setosa
## 15           5.8         4.0          1.2         0.2    setosa
## 16           5.7         4.4          1.5         0.4    setosa
## 17           5.4         3.9          1.3         0.4    setosa
## 18           5.1         3.5          1.4         0.3    setosa
## 19           5.7         3.8          1.7         0.3    setosa
## 20           5.1         3.8          1.5         0.3    setosa
## 21           5.4         3.4          1.7         0.2    setosa
## 22           5.1         3.7          1.5         0.4    setosa
## 23           4.6         3.6          1.0         0.2    setosa
## 24           5.1         3.3          1.7         0.5    setosa
## 25           4.8         3.4          1.9         0.2    setosa
## 26           5.0         3.0          1.6         0.2    setosa
## 27           5.0         3.4          1.6         0.4    setosa
## 28           5.2         3.5          1.5         0.2    setosa
## 29           5.2         3.4          1.4         0.2    setosa
## 30           4.7         3.2          1.6         0.2    setosa
## 31           4.8         3.1          1.6         0.2    setosa
## 32           5.4         3.4          1.5         0.4    setosa
```

```
## 33          5.2         4.1          1.5         0.1    setosa
## 34          5.5         4.2          1.4         0.2    setosa
## 35          4.9         3.1          1.5         0.2    setosa
## 36          5.0         3.2          1.2         0.2    setosa
## 37          5.5         3.5          1.3         0.2    setosa
## 38          4.9         3.6          1.4         0.1    setosa
## 39          4.4         3.0          1.3         0.2    setosa
## 40          5.1         3.4          1.5         0.2    setosa
## 41          5.0         3.5          1.3         0.3    setosa
## 42          4.5         2.3          1.3         0.3    setosa
## 43          4.4         3.2          1.3         0.2    setosa
## 44          5.0         3.5          1.6         0.6    setosa
## 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
## 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
## 107         4.9         2.5          4.5         1.7 virginica
## 108         7.3         2.9          6.3         1.8 virginica
## 109         6.7         2.5          5.8         1.8 virginica
## 110         7.2         3.6          6.1         2.5 virginica
## 111         6.5         3.2          5.1         2.0 virginica
## 112         6.4         2.7          5.3         1.9 virginica
## 113         6.8         3.0          5.5         2.1 virginica
## 114         5.7         2.5          5.0         2.0 virginica
## 115         5.8         2.8          5.1         2.4 virginica
## 116         6.4         3.2          5.3         2.3 virginica
## 117         6.5         3.0          5.5         1.8 virginica
## 118         7.7         3.8          6.7         2.2 virginica
## 119         7.7         2.6          6.9         2.3 virginica
## 120         6.0         2.2          5.0         1.5 virginica
## 121         6.9         3.2          5.7         2.3 virginica
## 122         5.6         2.8          4.9         2.0 virginica
## 123         7.7         2.8          6.7         2.0 virginica
## 124         6.3         2.7          4.9         1.8 virginica
## 125         6.7         3.3          5.7         2.1 virginica
## 126         7.2         3.2          6.0         1.8 virginica
## 127         6.2         2.8          4.8         1.8 virginica
## 128         6.1         3.0          4.9         1.8 virginica
## 129         6.4         2.8          5.6         2.1 virginica
## 130         7.2         3.0          5.8         1.6 virginica
## 131         7.4         2.8          6.1         1.9 virginica
## 132         7.9         3.8          6.4         2.0 virginica
## 133         6.4         2.8          5.6         2.2 virginica
## 134         6.3         2.8          5.1         1.5 virginica
## 135         6.1         2.6          5.6         1.4 virginica
## 136         7.7         3.0          6.1         2.3 virginica
```

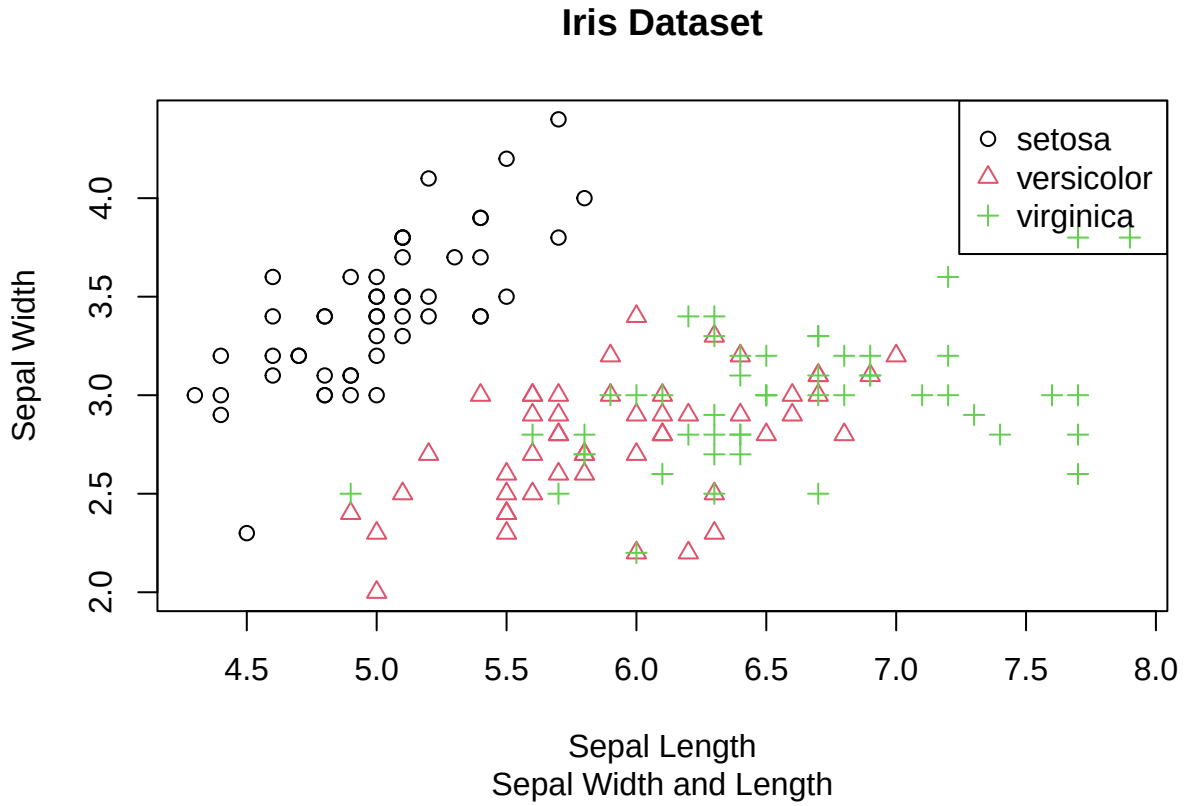
```
## 137          6.3         3.4          5.6         2.4 virginica
## 138          6.4         3.1          5.5         1.8 virginica
## 139          6.0         3.0          4.8         1.8 virginica
## 140          6.9         3.1          5.4         2.1 virginica
## 141          6.7         3.1          5.6         2.4 virginica
## 142          6.9         3.1          5.1         2.3 virginica
## 143          5.8         2.7          5.1         1.9 virginica
## 144          6.8         3.2          5.9         2.3 virginica
## 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
```

```
tail(subSpec, 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,
     col = as.numeric(iris$Species),  # Color based on species
     pch = as.numeric(iris$Species),  # Different symbol for each species
     main = "Iris Dataset",
     sub = "Sepal Width and Length",
     xlab = "Sepal Length", ylab = "Sepal Width"
)

legend("topright", legend = levels(iris$Species), col = unique(as.numeric(iris$Species)), pch = unique(a
```




```
#6f the scatterplot displays the relationship between the sepal length and width.
```

7

```
 library(readr)
file_show <- read_csv("file_show.csv")
```

```
## Rows: 3150 Columns: 5
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr (3): date, variation, verified_reviews
## dbl (2): rating, feedback
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
file_show
```

```
## # A tibble: 3,150 x 5
##    rating date      variation           verified_reviews                feedback
##     <dbl> <chr>     <chr>               <chr>                              <dbl>
##  1      5 31-Jul-18 Charcoal Fabric     Love my Echo!                          1
##  2      5 31-Jul-18 Charcoal Fabric     Loved it!                              1
##  3      4 31-Jul-18 Walnut Finish       Sometimes while playing a game~        1
##  4      5 31-Jul-18 Charcoal Fabric     I have had a lot of fun with t~        1
##  5      5 31-Jul-18 Charcoal Fabric     Music                                  1
##  6      5 31-Jul-18 Heather Gray Fabric I received the echo as a gift.~        1
##  7      3 31-Jul-18 Sandstone Fabric    Without having a cellphone, I ~        1
##  8      5 31-Jul-18 Charcoal Fabric     I think this is the 5th one I'~        1
##  9      5 30-Jul-18 Heather Gray Fabric looks great                            1
```

```
## 10      5 30-Jul-18 Heather Gray Fabric Love it! I?ve listened to song~        1
## # i 3,140 more rows
```

7a.

```
file_show$variation <- gsub("Black  Dot", "BlackDot", file_show$variation)
file_show$variation <- gsub("Black  Plus", "BlackPlus", file_show$variation)
file_show$variation <- gsub("Black  Show", "BlackShow", file_show$variation)
file_show$variation <- gsub("Black  Spot", "BlackSpot", file_show$variation)

file_show$variation <- gsub("White  Dot", "WhiteDot", file_show$variation)
file_show$variation <- gsub("White  Plus", "WhitePlus", file_show$variation)
file_show$variation <- gsub("White  Show", "WhiteShow", file_show$variation)
file_show$variation <- gsub("White  Spot", "WhiteSpot", file_show$variation)
```

7b.

```
library("dplyr")
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
var <- file_show %>%
  count(file_show$variation)

var
```

```
## # A tibble: 16 x 2
##    `file_show$variation`            n
##    <chr>                        <int>
##  1 Black                          261
##  2 BlackDot                       516
##  3 BlackPlus                      270
##  4 BlackShow                      265
##  5 BlackSpot                      241
##  6 Charcoal Fabric                430
##  7 Configuration: Fire TV Stick   350
##  8 Heather Gray Fabric            157
##  9 Oak Finish                      14
## 10 Sandstone Fabric                90
## 11 Walnut Finish                    9
## 12 White                           91
## 13 WhiteDot                       184
## 14 WhitePlus                       78
## 15 WhiteShow                       85
## 16 WhiteSpot                      109
```

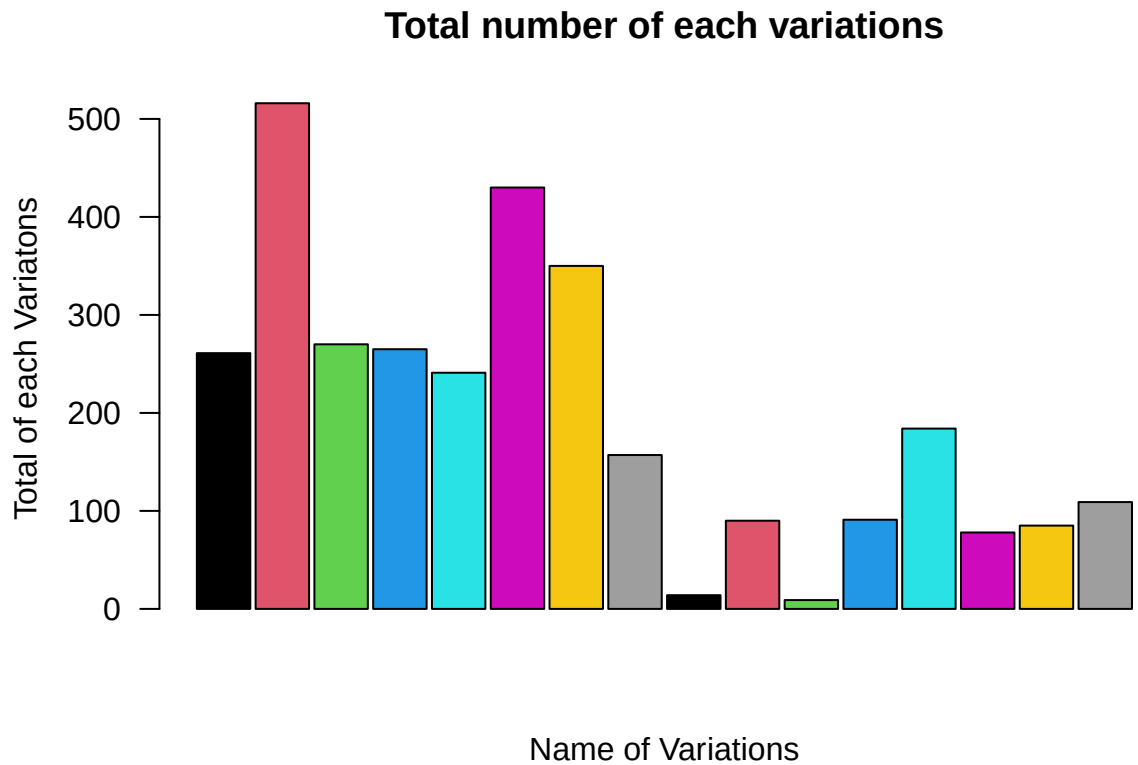
```
save(var, file = "variations.RData")
```

7c.

```
  load("variations.RData")
namevar <- var$`excimp$variation`
```

```
## Warning: Unknown or uninitialised column: `excimp$variation`.
```

```
plot <- barplot(var$n,
                names.arg = namevar,
                main = "Total number of each variations",
                xlab = "Name of Variations",
                ylab = "Total of each Variatons",
                col = 1:16,
                space = 0.1,
                cex.names = 0.5,
                las = 2)
```



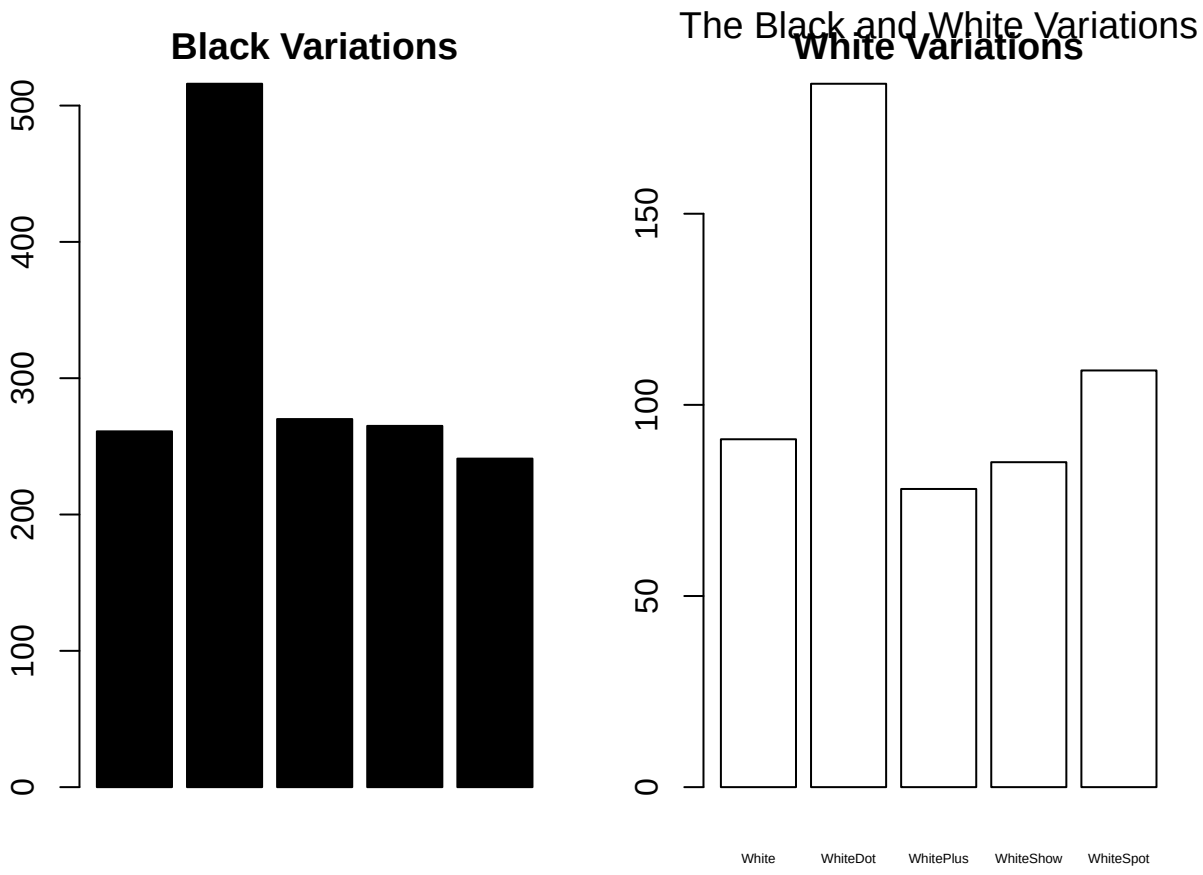
7 D. Create a barplot() for the black and white variations. Plot it in 1 frame, side by side. Complete the details of the chart.

```
# Load the required libraries
library(ggplot2)
library(magrittr)



# Subset the data for Black variations
Blackplot <- var[var$`file_show$variation` %in% c("Black", "BlackDot", "BlackShow", "BlackPlus", "Black

# Subset the data for White variations
Whiteplot <- var[var$`file_show$variation` %in% c("White", "WhiteDot", "WhiteShow", "WhitePlus", "White

#layout one frame
```

```r
par(mfrow = c(1, 2), mar = c(2, 2, 2, 2))

# Barplot for Black variations
Black <- barplot(height = Blackplot$n,
                 names.arg = Blackplot$`file_show$var`,
                 col = "Black",
                 main = "Black Variations",
                 xlab = "Number of Variation",
                 ylab = "Count",
                 cex.names = 0.4,
                 space = 0.2
)
```

```
## Warning: Unknown or uninitialised column: `file_show$var`.
```

```r
# Barplot for White variations
White <- barplot(height = Whiteplot$n,
                 names.arg = Whiteplot$`file_show$variation`,
                 col = "White",
                 main = "White Variations",
                 xlab = "Number of Variation",
                 ylab = "Count",
                 cex.names = 0.4,
                 space = 0.2
)
mtext("The Black and White Variations", side = 3, line = 1, cex = 1.2)
```



```
knitr::include_graphics("/cloud/project/RWorksheet$4/BLACKandWHITE.png")
```