

RWorksheet_Cabico#4b.Rmd

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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
```

```
num_rows<-5
```

```
for(i in 1:num_rows){
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
x <- 0
y <- 1
repeat {
  if (x > 500) {
    break
  }
  if (x >= assume.number) {
```

```

    cat(x, " ")
  }
  temp <- x + y
  x <- y
  y <- temp
}

```

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

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

```

library(readr)
Sizes <- read_csv("Sizes.csv")

```

```

## Rows: 28 Columns: 3
## -- Column specification -----
## Delimiter: ","
## chr (1): Gender
## dbl (2): Shoe size, Height
##
## 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.

```

```
Sizes
```

```

## # A tibble: 28 x 3
##   `Shoe size` Height Gender
##   <dbl>   <dbl> <chr>
## 1     6.5    66   F
## 2     9     68   F
## 3     8.5   64.5 F
## 4     8.5    65   F
## 5    10.5    70   M
## 6     7     64   F
## 7     9.5    70   F
## 8     9     71   F
## 9    13     72   M
## 10    7.5    64   F
## # i 18 more rows

```

```

Sizes <- read_csv("Sizes.csv")
Sizes

```

```

##   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    74.0     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    70.0      M
```

```
shoesize <- Sizes[c(1:6),]
shoesize
```

```
##      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 <- Sizes[Sizes$Gender == "M", c("Shoe.size", "Height")]
female_subset <- Sizes[Sizes$Gender == "F", c("Shoe.size", "Height")]
male_subset
```

```
##      Shoe.size Height
## 5         10.5     70
## 9         13.0     72
## 11        10.5     74
## 13        12.0     71
## 14        10.5     71
## 15        13.0     77
## 16        11.5     72
## 19        10.0     72
## 22         8.5     67
## 23        10.5     73
## 25        10.5     72
## 26        11.0     70
## 27         9.0     69
## 28        13.0     70
```

```
female_subset
```

```
##      Shoe.size Height
## 1         6.5    66.0
## 2         9.0    68.0
## 3         8.5    64.5
## 4         8.5    65.0
## 6         7.0    64.0
## 7         9.5    70.0
```

```
## 8      9.0  71.0
## 10     7.5  64.0
## 12     8.5  67.0
## 17     8.5  59.0
## 18     5.0  62.0
## 20     6.5  66.0
## 21     7.5  64.0
## 24     8.5  69.0
```

```
household <- read.csv("HouseholdData.csv")
household
```

```
##      Respondents      Sex Fathers_Occupation Person_at_Home Siblings_at_school
## 1             1   Male                1             5             2
## 2             2 Female                2             7             3
## 3             3 Female                3             3             0
## 4             4   Male                3             8             5
## 5             5   Male                1             6             2
## 6             6 Female                2             4             3
## 7             7 Female                2             4             1
## 8             8   Male                3             2             2
## 9             9 Female                1            11             6
## 10           10   Male                3             6             2
```

```
##      Types_of_houses
## 1             Wood
## 2             Congrete
## 3             Congrete
## 4             Wood
## 5      Semi-Congrete
## 6      Semi-Congrete
## 7             Wood
## 8      Semi-Congrete
## 9      Semi-Congrete
## 10            Congrete
```

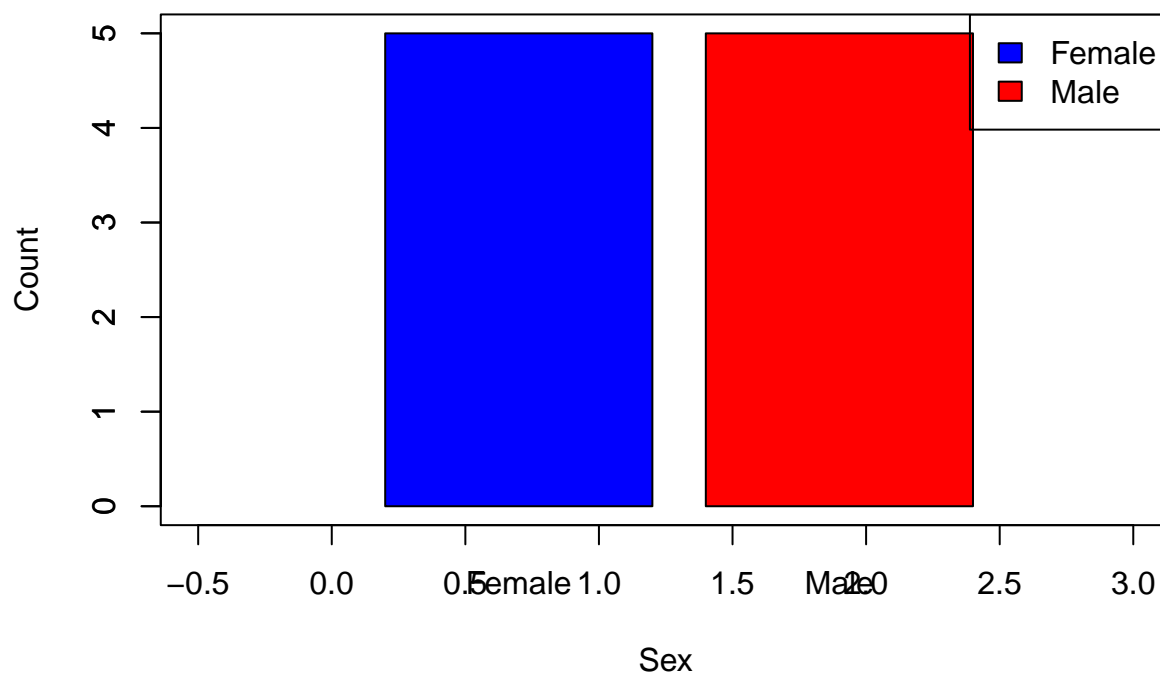
```
gender_counts <- table(household$Sex)
```

```
plot(1, type = "n", main = "Number of Males and Females in Household Data",
     xlab = "Sex", ylab = "Count", xlim = c(-0.5,3.0), ylim = c(0, max(gender_counts)))
```

```
barplot(gender_counts, col = c("blue", "red"), add = TRUE)
```

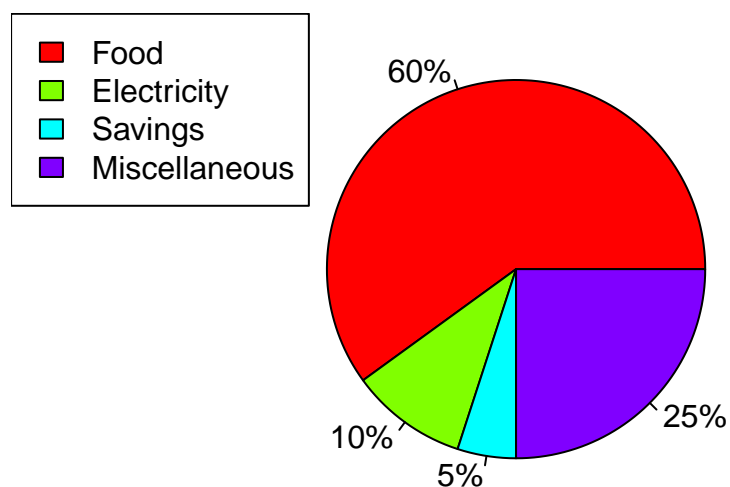
```
legend("topright", legend = levels(as.factor(household$Sex)), fill = c("blue", "red"))
```

Number of Males and Females in Household Data



```
pie_chart <- c(60, 10, 5, 25)
pie(pie_chart, labels=paste0(pie_chart,"%"),
    main = "Monthly Income of Dela Cruz Family ",
    col =rainbow(length(pie_chart)))
legend("topleft", legend = c("Food", "Electricity", "Savings", "Miscellaneous"), fill=rainbow(length(pie_chart)))
```

Monthly Income of Dela Cruz Family



```
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 ...

meanIris<- colMeans(iris[,c("Sepal.Width","Petal.Length","Petal.Width")])
print(meanIris)

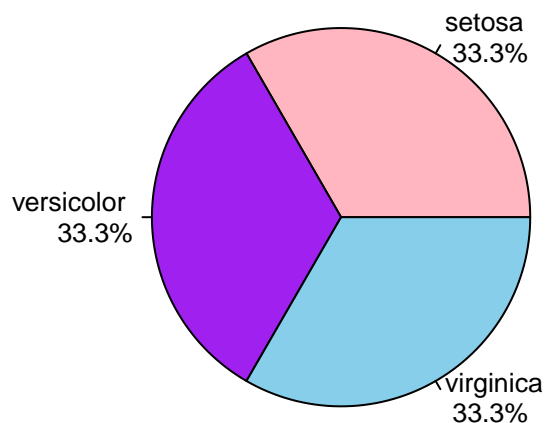
## Sepal.Width Petal.Length Petal.Width
## 3.057333 3.758000 1.199333

specs<-table(iris$Species)

clors<-c("lightpink","purple","skyblue")

pie(specs,labels = paste(names(specs),"\n",
  sprintf("%.1f%%",prop.table(specs)*100)),
  col= clors,
  main= "Species Distribution",
  cex.main = 1.5,
  cex =0.8)
```

Species Distribution



```
SetSub <- subset(iris, Species == "setosa")
VersiSub <- subset(iris, Species == "versicolor")
VirgiSub <- subset(iris, Species == "virginica")

# Display the last six rows of each species
cat("Last six rows of Setosa:")
```

```
## Last six rows of Setosa:
```

```
print(tail(SetSub))
```

```
## 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
```

```
cat("Last six rows of Versicolor:")
```

```
## Last six rows of Versicolor:
```

```
print(tail(VersiSub))
```

```
##      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
```

```
cat("Last six rows of Virginica:")
```

```
## Last six rows of Virginica:
```

```
print(tail(VirgiSub))
```

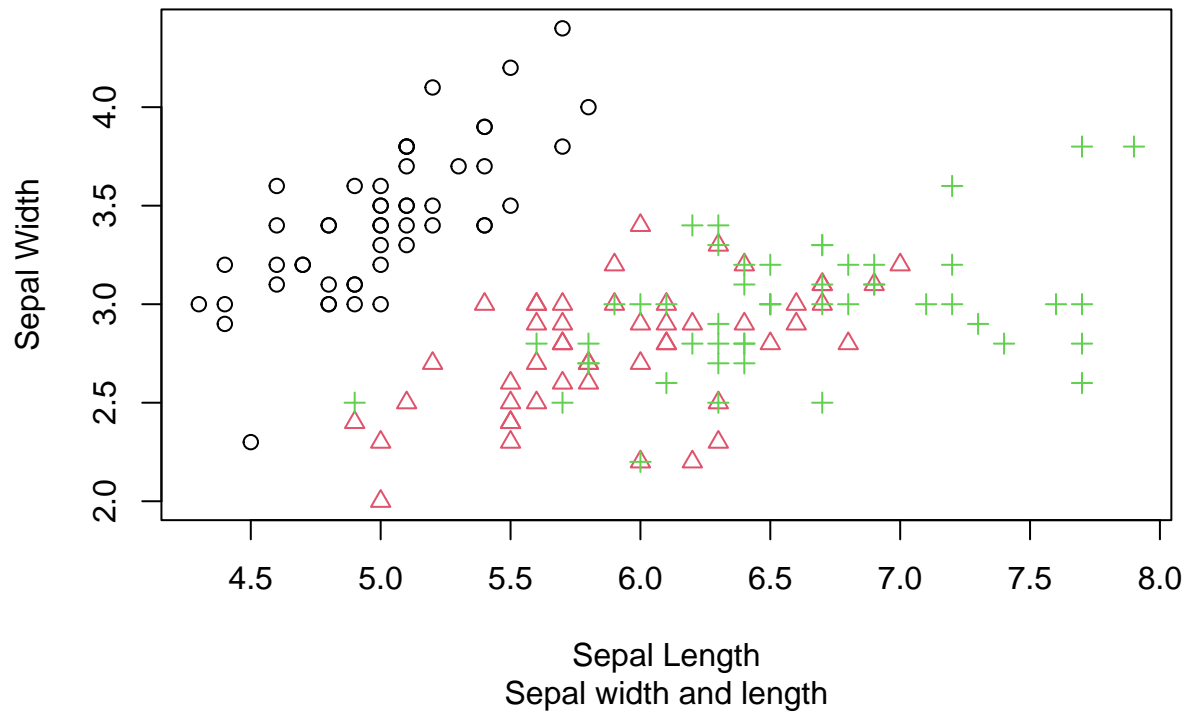
```
##      Sepal.Length Sepal.Width Petal.Length Petal.Width  Species
## 145           6.7         3.3         5.7         2.5 virginica
## 146           6.7         3.0         5.2         2.3 virginica
## 147           6.3         2.5         5.0         1.9 virginica
## 148           6.5         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
```

```
data(iris)
```

```
iris$Species <- as.factor(iris$Species)
```

```
plot(iris$Sepal.Length, iris$Sepal.Width,
     pch = as.integer(iris$Species),
     col = iris$Species,
     main = "Iris Dataset",
     sub = "Sepal width and length",
     xlab = "Sepal Length",
     ylab = "Sepal Width"
)
```

Iris Dataset



#The scatterplot shows similarities between the sepal width and length ranging from 5.5 to 7.0

```
library(readxl)
alexa_file <- read_excel("alexa_file.xlsx")
alexa_file
```

```
## # A tibble: 3,150 x 5
##   rating date          variation    verified_reviews    feedback
##   <dbl> <dtm>          <chr>          <chr>          <dbl>
## 1     5 2018-07-31 00:00:00 Charcoal Fabric    Love my Echo!         1
## 2     5 2018-07-31 00:00:00 Charcoal Fabric    Loved it!              1
## 3     4 2018-07-31 00:00:00 Walnut Finish     Sometimes while play~  1
## 4     5 2018-07-31 00:00:00 Charcoal Fabric    I have had a lot of ~  1
## 5     5 2018-07-31 00:00:00 Charcoal Fabric    Music                  1
## 6     5 2018-07-31 00:00:00 Heather Gray Fabric I received the echo ~  1
## 7     3 2018-07-31 00:00:00 Sandstone Fabric   Without having a cel~  1
## 8     5 2018-07-31 00:00:00 Charcoal Fabric    I think this is the ~  1
## 9     5 2018-07-30 00:00:00 Heather Gray Fabric looks great          1
## 10    5 2018-07-30 00:00:00 Heather Gray Fabric Love it! I've listen~  1
## # i 3,140 more rows
```