RWorksheet_urdas#5

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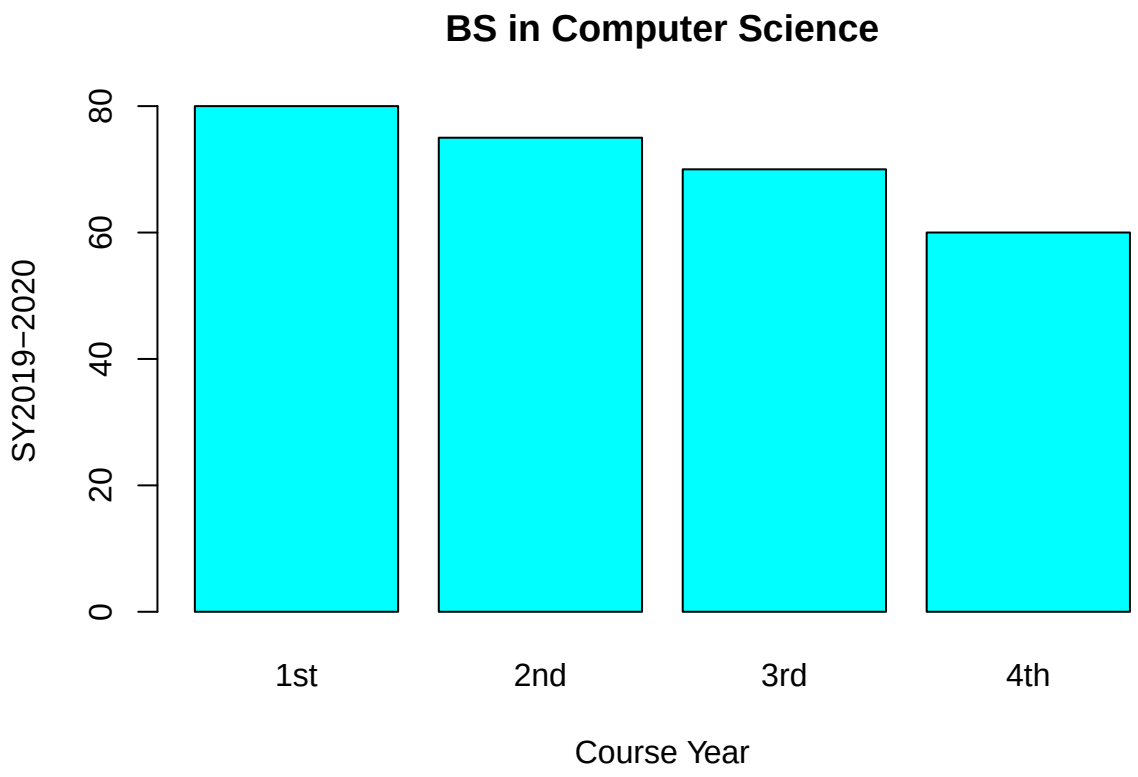
2022-11-24

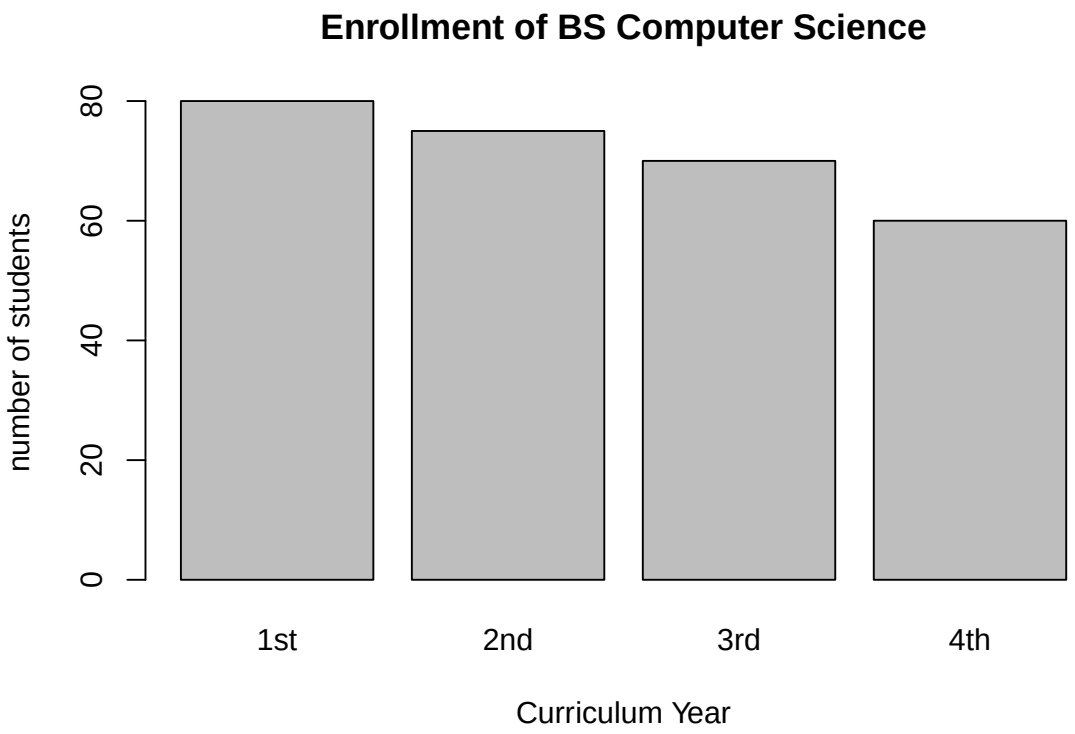
1. The table shows the enrollment of BS in Computer Science, SY 2010-2011. Course Year 2019 - 2020

1st 80
2nd 75
3rd 70
4th 60

a. Plot the data using a bar graph. Write the codes and copy the result.

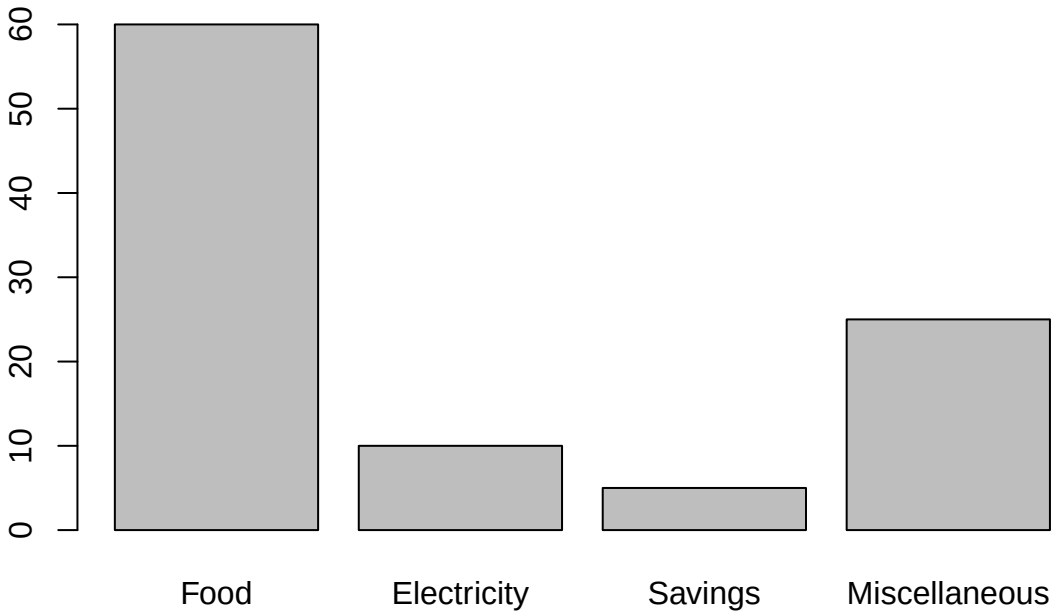


b. Using the same table, label the barchart with Title = " Enrollment of BS Computer Science horizontal axis = "Curriculum Year" and vertical axis = "number of students"

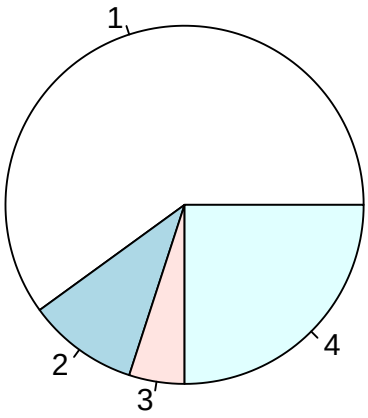


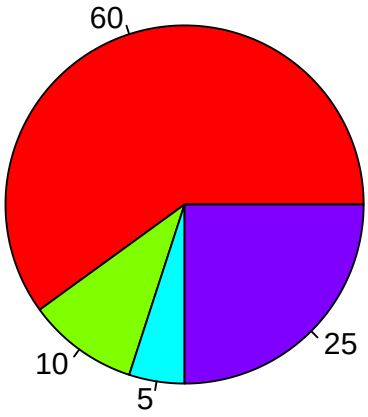
2. The monthly income of De Jesus family was spent on the following:

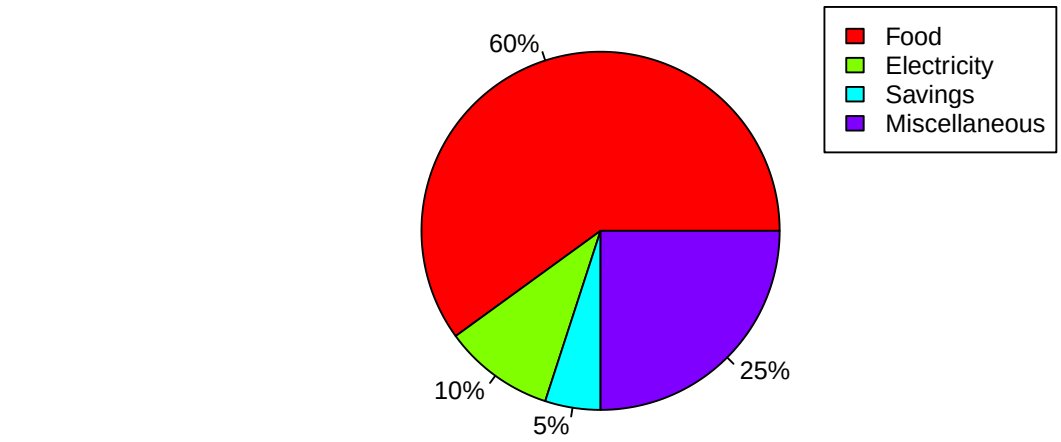
60% on Food, 10% on electricity, 5% for savings, and 25% for other miscellaneous expenses.
a. Create a table for the above scenario. Write the codes and its result.



b. Plot the data using a pie chart. Add labels, colors and legend. Write the codes and its result.


1
2
3
4

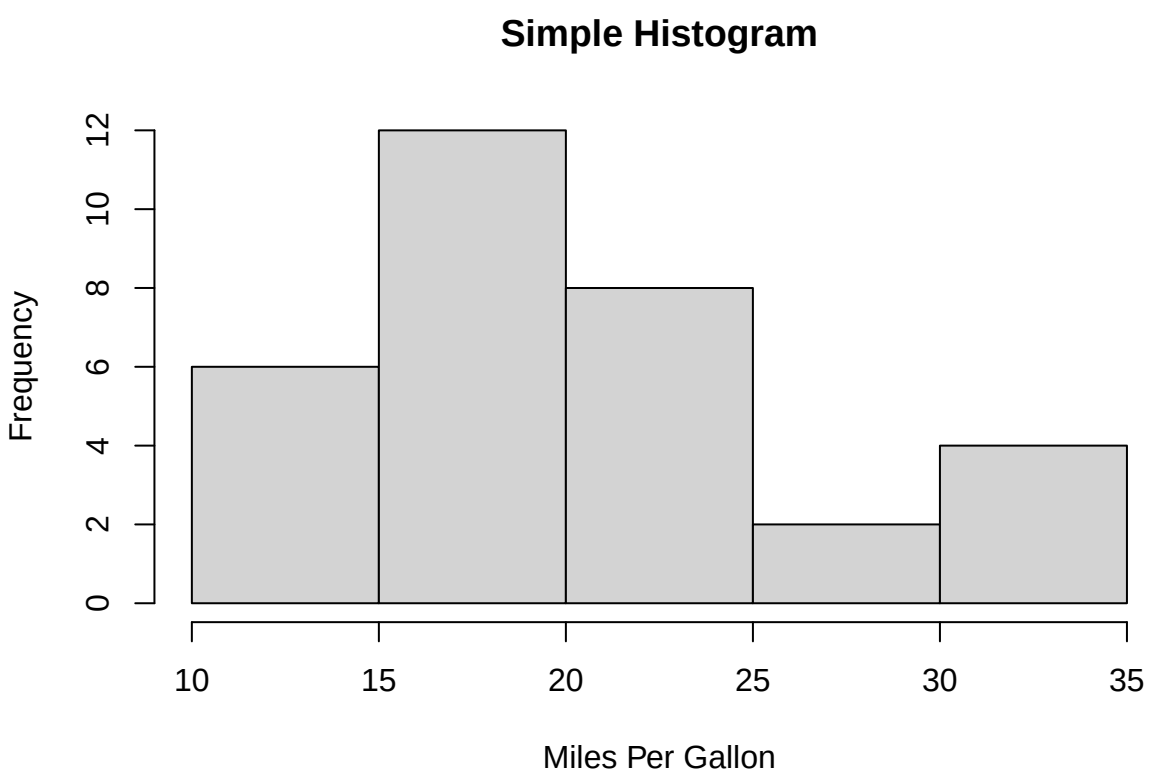

60
10
5
25



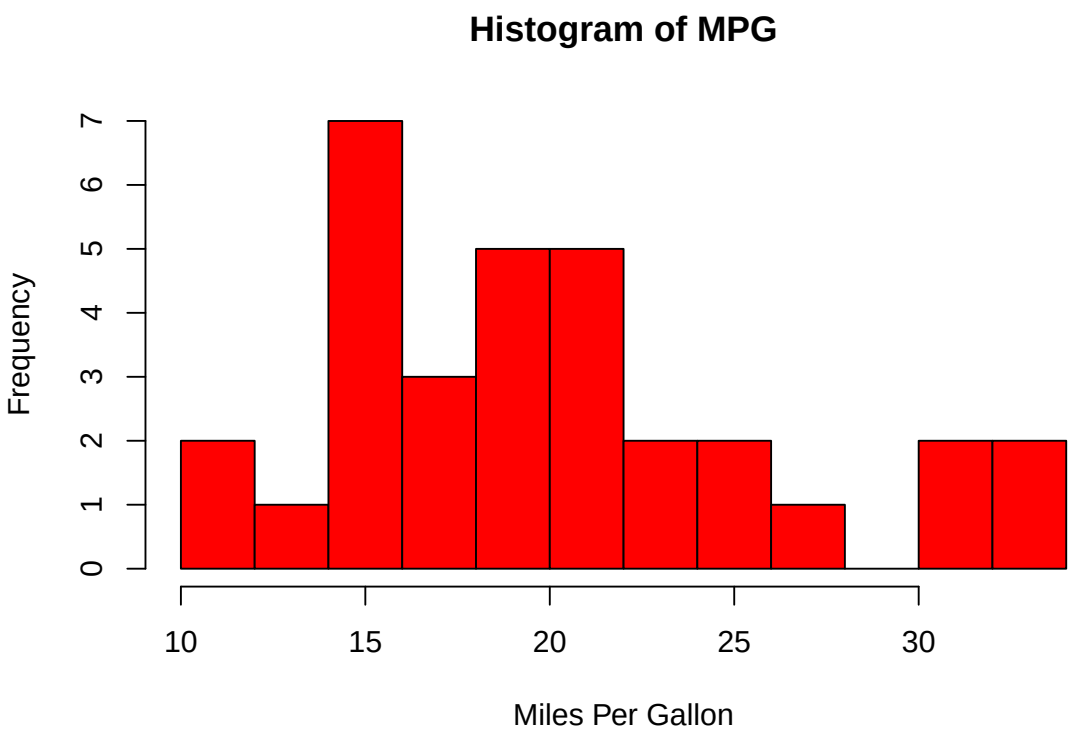
3. Open the mtcars dataset.

c. Create a simple histogram specifically for mpg (miles per gallon) variable. Use $ to select the mpg only. Write the codes and its result.

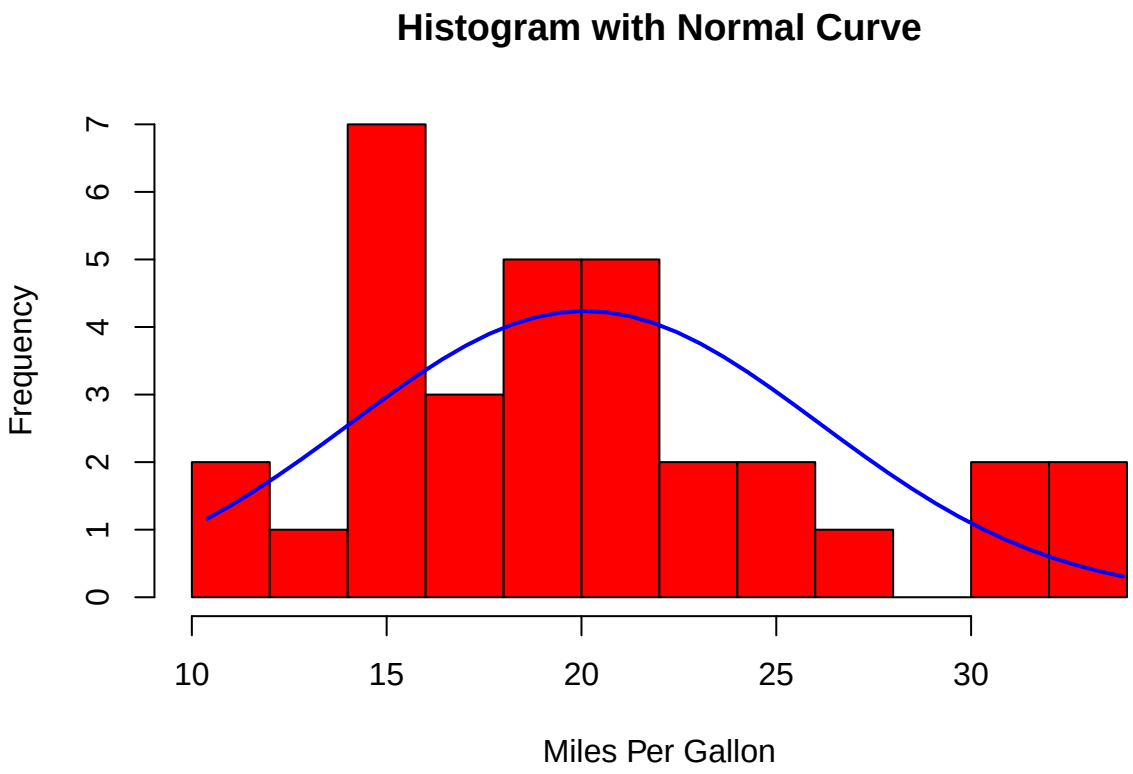
```
##  [1] 21.0 21.0 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 17.8 16.4 17.3 15.2 10.4
## [16] 10.4 14.7 32.4 30.4 33.9 21.5 15.5 15.2 13.3 19.2 27.3 26.0 30.4 15.8 19.7
## [31] 15.0 21.4
```



b. Colored histogram with different number of bins. hist(mtcars$mpg, breaks=12, col="red") Note: breaks= controls the number of bins



c. Add a Normal Curve x <- mtcars$mpg h <- hist(x, breaks = 10, col = "red", xlab = "Miles Per Gallon", main = "Histogram with Normal Curve") xfit <- seq(min(x), max(x), length = 40) yfit <- dnorm(xfit, mean = mean(x), sd = sd(x)) yfit <- yfit * diff(h$mids[1:2])*length(x) lines(xfit, yfit, col="blue", lwd=2)
Copy the result.



4. Open the iris dataset. Create a subset for each species.

a. Write the codes and its result.

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

b. Get the mean for every characteristics of each species using colMeans(). Write the codes and its result. Example: setosa <- colMeans(setosa[sapply(setosaDF,is.numeric)])

```
## Sepal.Length  Sepal.Width Petal.Length  Petal.Width
##        5.006        3.428        1.462        0.246

## Sepal.Length  Sepal.Width Petal.Length  Petal.Width
##        5.936        2.770        4.260        1.326

## Sepal.Length  Sepal.Width Petal.Length  Petal.Width
##        6.588        2.974        5.552        2.026
```

c. Combine all species by using rbind()
The table should be look like this:

```
##            Sepal.Length Sepal.Width Petal.Length Petal.Width
## setosa            5.006       3.428        1.462       0.246
## versicolor        5.936       2.770        4.260       1.326
## virginica         6.588       2.974        5.552       2.026
```

d. From the data in 4-c: Create the barplot(). Write the codes and its result.