(Association Mining in R)

(Plots in R)

Lab 4

Association Mining

```
install.packages("arules")
library(arules)

#Data in binary format

grocery <- read.csv("assocclass24.csv", header=TRUE)

grocery
ncol(grocery)
nrow(grocery)
summary(grocery)

grocery5 <- grocery[,1:5]
grocery5

grocery5r <- data.frame((grocery5 == 1))
grocery5r

brules <- apriori(grocery5r, parameter=
                list(support=0.3, confidence = 0.7))
```

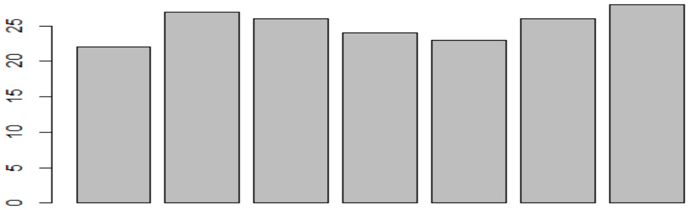
Bar Plots

- Bar plots can be created in R using the barplot() function. We can supply a vector or matrix to this function. If we supply a vector, the plot will have bars with their heights equal to the elements in the vector.
- Let us suppose, we have a vector of maximum temperatures (in degree Celsius) for seven days as follows.

Example

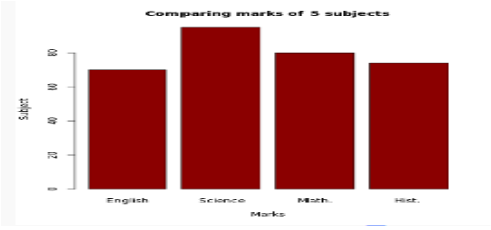
```
max.temp<- c(22, 27, 26, 24, 23, 26, 28)
barplot(max.temp)
```

Output



Example:

```
marks = c(70, 95, 80, 74)
barplot(marks, main = "Comparing marks of 5 subjects", xlab = "Marks",
    ylab = "Subject", names.arg = c("English", "Science", "Math.", "Hist."),
    col = "darkred", horiz = FALSE)
```



Plotting Categorical Data

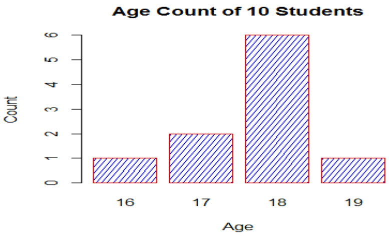
Example

```
age <- c(17,18,18,17,18,19,18,16,18,18)
    table(age)
    age
    16 17 18 19
    1  2  6  1
```

Now plotting this data will give our required bar plot. Note below, that we define the argument density to shade the bars.

Example

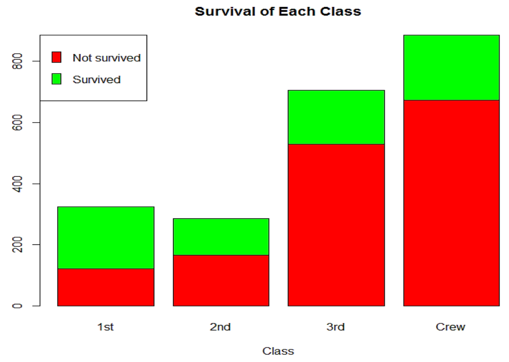
```
barplot(table(age),
main="Age Count of 10 Students",
xlab="Age",
ylab="Count",
border="red",
col="blue",
density=10)
```

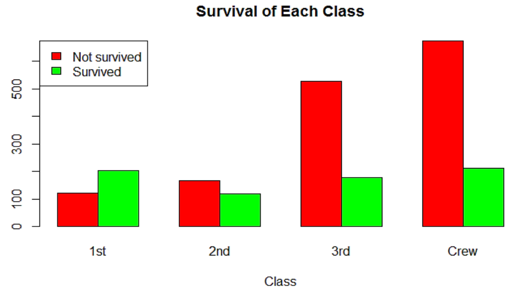


Export the graph into a file for future use

See Export under Plots in RStudio

```
titanic.data = data.frame(First = c(122,203),Second = c(167,118),Third = c(528,178), Crew = c(673,212))
        1st        2nd        3rd        Crew
        122        167        528        673
        203        118        178        212
barplot(as.matrix(titanic.data), main = "Survival of Each Class", xlab = "Class",
col = c("red","green"))
legend("topleft", c("Not survived","Survived"), fill = c("red","green"))
```

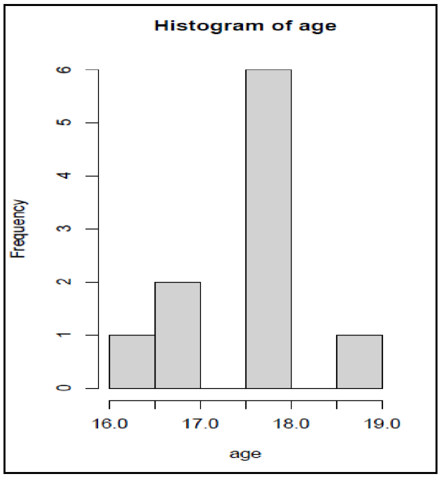




Histogram

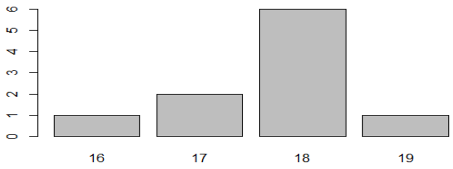
Histogram can be created using the hist() function in R programming language.
This function takes in a vector of values for which the histogram is plotted.

```
age = c(17,18,18,17,18,19,18,16,18,18)
table(age)
hist(age)
```



#Note the difference between barplot and histogram

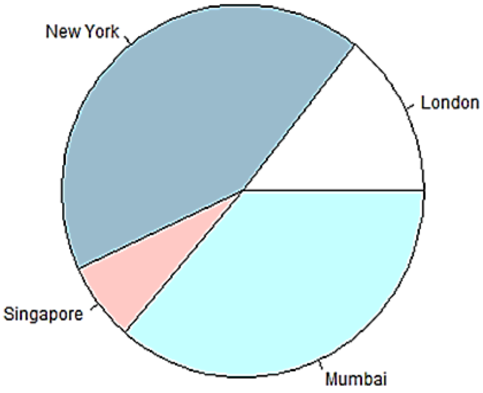
```
barplot(table(age))
```



Pie Charts

```
    # Create data for the graph.
    x <- c(21, 62, 10, 53)
    labels<- c("London", "New York", "Singapore",
    "Mumbai")

    # Give the chart file a name.
    png(file = "city.png")
    # Plot the chart.
    pie(x, labels)
    # Save the file.
    dev.off()
```



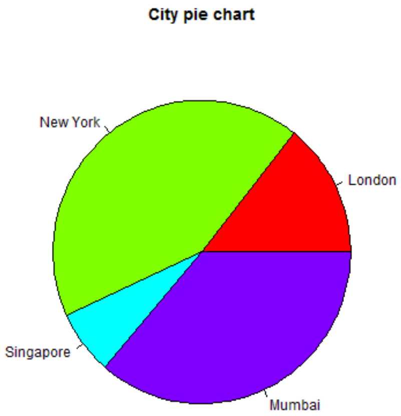
Pie Chart Title and Colors

```
# Create data for the graph.
x <- c(21, 62, 10, 53)
labels<- c("London", "New York", "Singapore", "Mumbai")

# Give the chart file a name.
png(file = "city_title_colours.jpg")

# Plot the chart with title and rainbow color pallet.
pie(x, labels, main = "City pie chart", col = rainbow(length(x)))

# Save the file.
dev.off()
```



3D Pie Chart

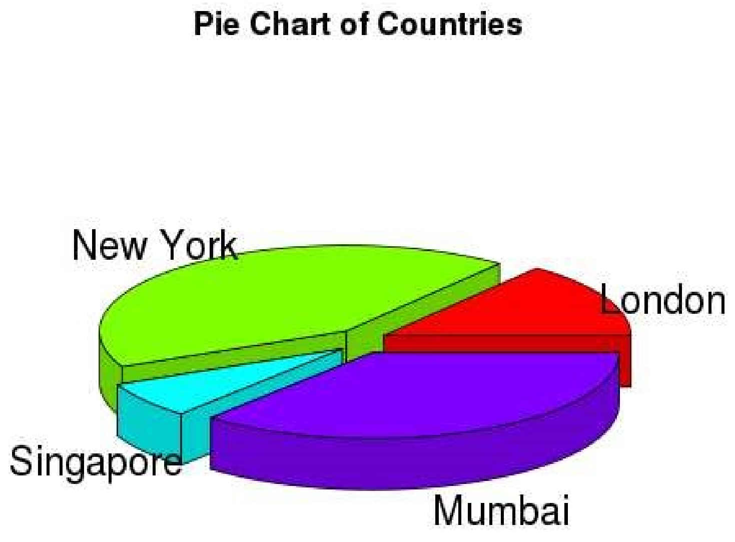
```
#Install the package named as plotrix
install.packages (“plotrix”)
# Get the library.
library(plotrix)

# Create data for the graph.
x <-  c(21, 62, 10, 53)
lbl<-  c("London","NewYork","Singapore","Mumbai")

# Give the chart file a name.
png(file = "3d_pie_chart.jpg")

# Plot the chart.
pie3D(x,labels = lbl,explode = 0.1, main = "Pie Chart of Countries ")

# Save the file.
dev.off()
```


Pie Chart of Countries
New York
London
Singapore
Mumbai