***#Data Visualization using R***

*#The following codes take 5 different transactions and generate an item frequency plot which shows the support of #each item which was purchased from store*

# Install the packages if they are not already installed

install.packages("arules")

install.packages("arulesViz")

# Load the libraries

library(arules)

library(arulesViz)

# Define a list of transactions

transactions\_list <- list( c("Tomato", "Onion", "Brinjal"), c("Tomato", "Onion"), c("Tomato", "Onion", "Lemon"),c("Brinjal", "Chilly"), c("Tomato", "Onion", "Lemon", "Chilly"))

transactions <- as(transactions\_list, "transactions")

***#Create the item frequency plot to visualize the support of each item***

itemFrequencyPlot(transactions, topN = 5, type = "absolute")

# Taking Groceries built in dataset of arules package to generate an item frequency plot using R

data("Groceries")

itemFrequencyPlot(Groceries, topN = 15)

#take minsupp=0.001 , minconf=0.9 and maximum length of rules as 4 to eliminate rules with length more than 4 and #focus on interpreting visualization and modeling using R

rules=apriori(Groceries, parameter = list(supp = .001, conf = .9 , maxlen=4))

rules

#display first five strong association rules

Inspect(rules[1:5])

# plot a graph with support in x axis and confidence in y axis

#The concertation of the color of the bar in right size of the graph indicates the intensity of lift.

plot(rules)

#Plot a grouped matrix visualization of association rules

plot (rules, method = "Grouped")

#limit the number of rules

rules1=apriori(Groceries, parameter = list(supp = .0011, conf = .9 , maxlen=3))

rules1

#plot an interactive html graph visualization

plot(rules1,method="graph",engine = "html")

#visual representation of the matrix plot. LHS is plotted in x axis and RHS is plotted in y axis

plot (rules, method = "matrix")