**CODE:**

### Installing and Loading libraries

install.packages("arules")

install.packages("arulesViz")

library(readr)

library(arules)

library(RColorBrewer)

library(arulesViz)

### Setting up the working directory

setwd("D:/great learning/9. MRA/Project")

mba.data = read.csv("Cafe Coffee Night-3.csv", header = TRUE)

attach(mba.data)

print(mba.data)

str(mba.data)

mba.data.aggregate = split(mba.data$Item.Desc, mba.data$Bill.Number)

head(mba.data.aggregate)

### Converting mba.data.aggregate to transaction

Txns = as(mba.data.aggregate, "transactions")

summary(Txns)

inspect(Txns[1:10])

freq = itemFrequency(Txns)

freq = freq[order(freq)]

freq = freq[order(-freq)]

barplot(freq[1:20])

itemFrequencyPlot(Txns, support = 0.001)

itemFrequencyPlot(Txns, topN = 10)

### Building Market Basket Analysis

arules = apriori(data = Txns)

View(arules)

inspect(sort(arules, by = "lift"))

arules2 = apriori(data = Txns, parameter = list(support = 0.001, confidence = 0.05, minlen = 2))

inspect(sort(arules2, by = "lift"))

rules\_df = as(arules2, "data.frame")

write.csv(rules\_df, file = "MBA CCN.csv", append = FALSE)

plot(arules2, control = list(col = brewer.pal(11, "Spectral")))