**1. Perform the below given activities:**

**a. Take Apple Stock Prices from Yahoo Finance for last 90 days**

Ans:

library(quantmod)

getSymbols("AAPL",from="2018-10-07",to="2019-02-16" ,src = "yahoo", adjust = TRUE)

View(AAPL)

names(AAPL)

rownames(AAPL)

mydf<-data.frame(AAPL)

head(mydf)

mydf <- cbind(rownames(mydf), mydf)

rownames(mydf) <- NULL

colnames(mydf) <- c( "Date","AAPL.Open", "AAPL.High", "AAPL.Low", "AAPL.Close", "AAPL.Volume", "AAPL.Adjusted")

**b. Predict the Stock closing prices for next 15 days.**

Ans:

library(ggplot2)

qplot(Date,AAPL.Close,data = mydf)

ds<-mydf$Date

y<-log(mydf$AAPL.Close)

qplot(ds,y,data = mydf)

df<-data.frame(ds,y)

library(prophet)

m<-prophet(df,daily.seasonality=TRUE)

#predictions

future<-make\_future\_dataframe(m,periods = 15)

forecast<-predict(m,future)

tail(forecast,15)

tail(forecast[c('ds','yhat','yhat\_lower','yhat\_upper')],15)

tail(forecast$yhat,15)

exp(tail(forecast$yhat,15))

plot(m,forecast)

prophet\_plot\_components(m,forecast)

>> exp(tail(forecast$yhat,15)) #predicted for next 15 days from 2019-02-16 to 2019-03-02

[1] 175.2502 176.1107 176.4727 177.9212 179.8218 180.2064 180.0508 181.3633 182.2539 182.6285

[11] 184.1275 186.0944 186.4924 186.3313 187.6897

**c. Submit your accuracy**

Ans:

h<-exp(tail(forecast$yhat,15))

accuracy(h,mydf$AAPL.Close)

**d. After 15 days again collect the data and compare with your forecast**

Ans:

#seeing after 15 days

library(quantmod)

getSymbols("AAPL",from="2019-02-16",to="2019-03-12" ,src = "yahoo", adjust = TRUE)

View(AAPL)

names(AAPL)

rownames(AAPL)

class(AAPL)

mydf<-data.frame(AAPL)

head(mydf)

mydf <- cbind(rownames(mydf), mydf)

rownames(mydf) <- NULL

colnames(mydf) <- c( "Date","AAPL.Open", "AAPL.High", "AAPL.Low", "AAPL.Close", "AAPL.Volume", "AAPL.Adjusted")

data<-cbind(mydf$Date,mydf$AAPL.Close)