BA Homework #1

Business Analytics - Fall 2019, NYU

INSTRUCTIONS & SUBMISSION

Complete the problems below and submit via NYUClasses. Submit a PDF file with your answers, graphs, and R code.

PROBLEM 1

You are given the closing stock prices of 4 companies for one year. With the help of the what you are being taught in the first class (basic arithmetic in R) answer the following questions.

1. Compute the average price of each company's share for the given year.
2. What are the data types of all the variables in the dataset?
3. Calculate the returns for each company's share for the given year on daily basis.
4. Calculate the cumulative returns for each company's share for the given year.
5. Find out the top 5 top returns for the given year.
6. Find out the top 5 worst returns for the given year.
7. Using the function ***plot()***, try to visualize the returns of the stock over one year

Datasource: BusinessAnalytics/BAData/Stock prices HMK1.csv

PROBLEM 2

Using the Cheesemakers dataset, answer the following questions:

1. Compute the summary statistics for gross profit in cheese? What does this mean to you?
2. Plot a histogram and a box plot of gross profits. Explain them in English? What do you see? What is normal/abnormal?

3. Using the CustomerID column, identify the number of customer who have done recurring purchases.
    a. What is the average number of purchases of the recurring clients?
    b. What is the average spent by recurring clients?
    c. What is the variance in gross profits between recurring clients vs clients who buy 1 cheese?
4. Which are the most profitable clients?
5. How many clients are paying more than 2 standard deviations of the mean price? What does that mean in english?
6. Compute number of unique clients per state
    a. Normalize the data using min-max scaling
    b. Is there an association (correlation) between client volume and sales?

Datasource: BusinessAnalytics/BAData/Cheesemakers_v2.xlsx