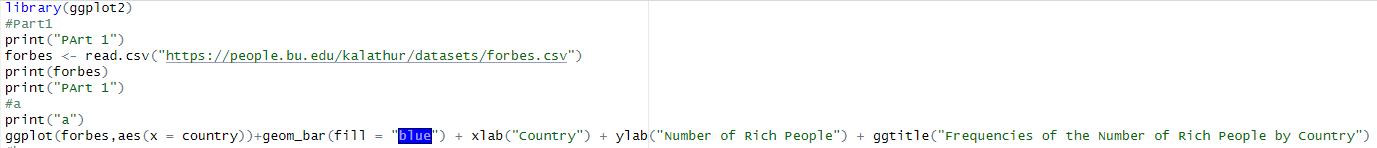
Weilin Lu

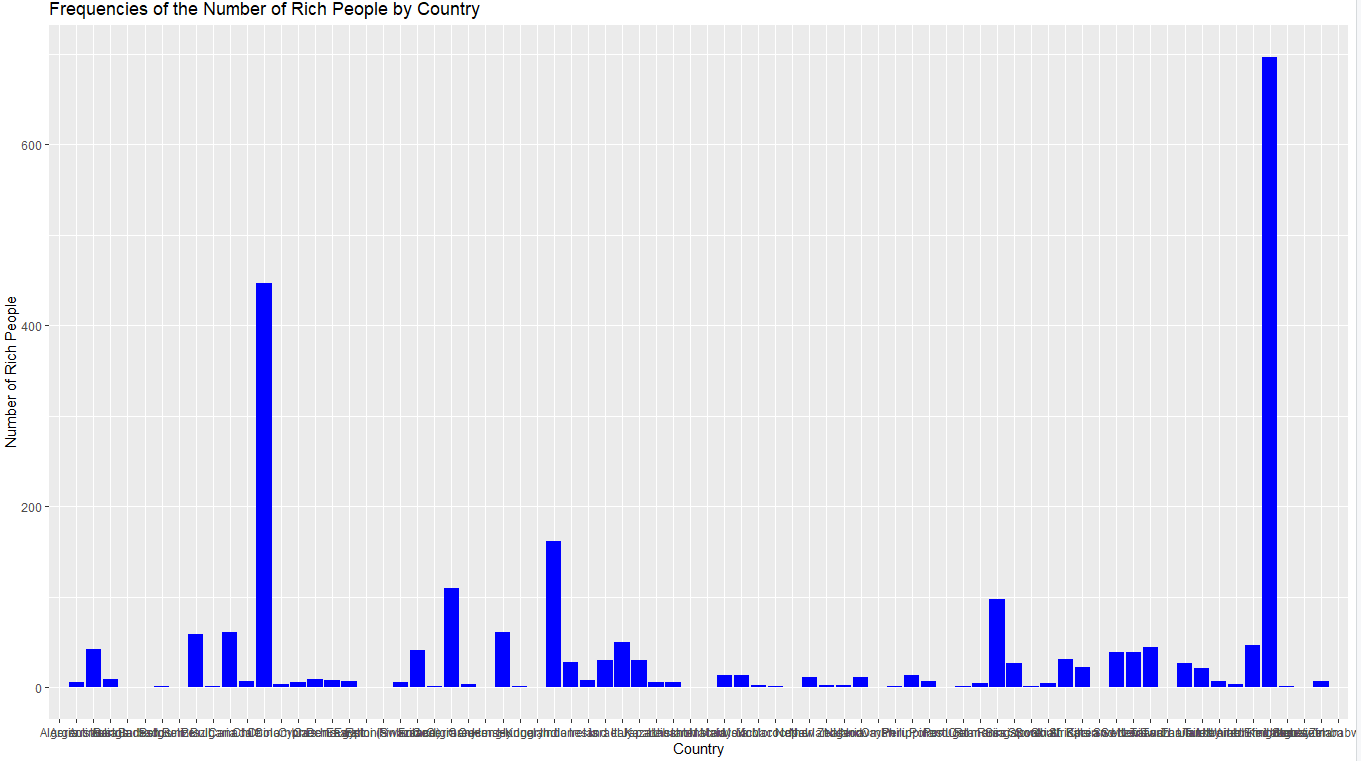
CS544

Assignment 3

Part 1

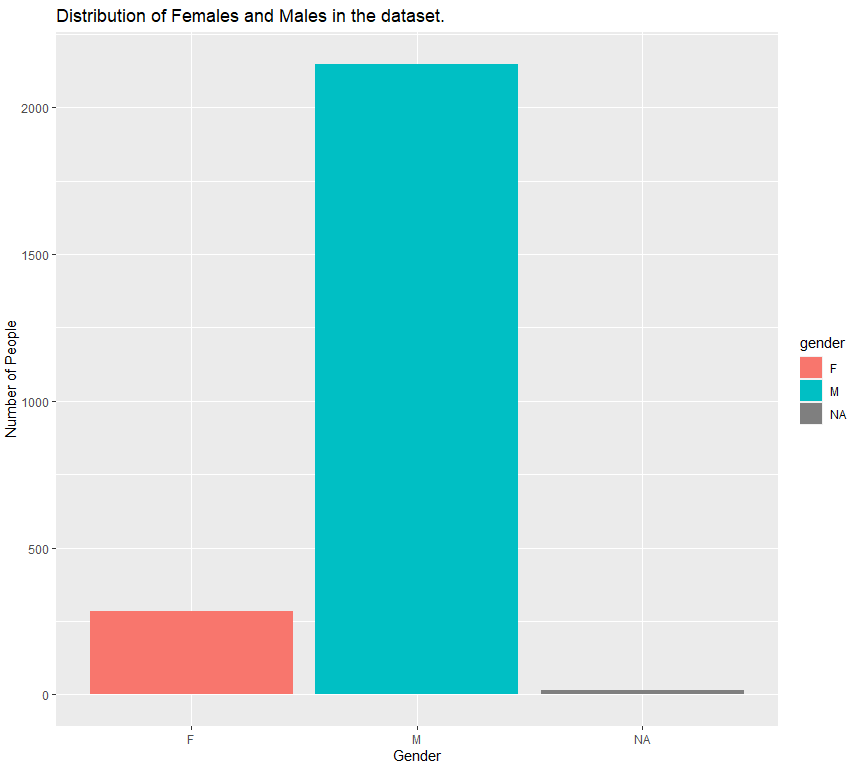
1. :

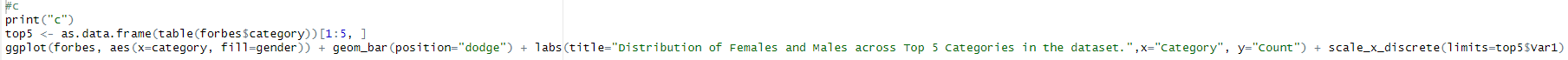


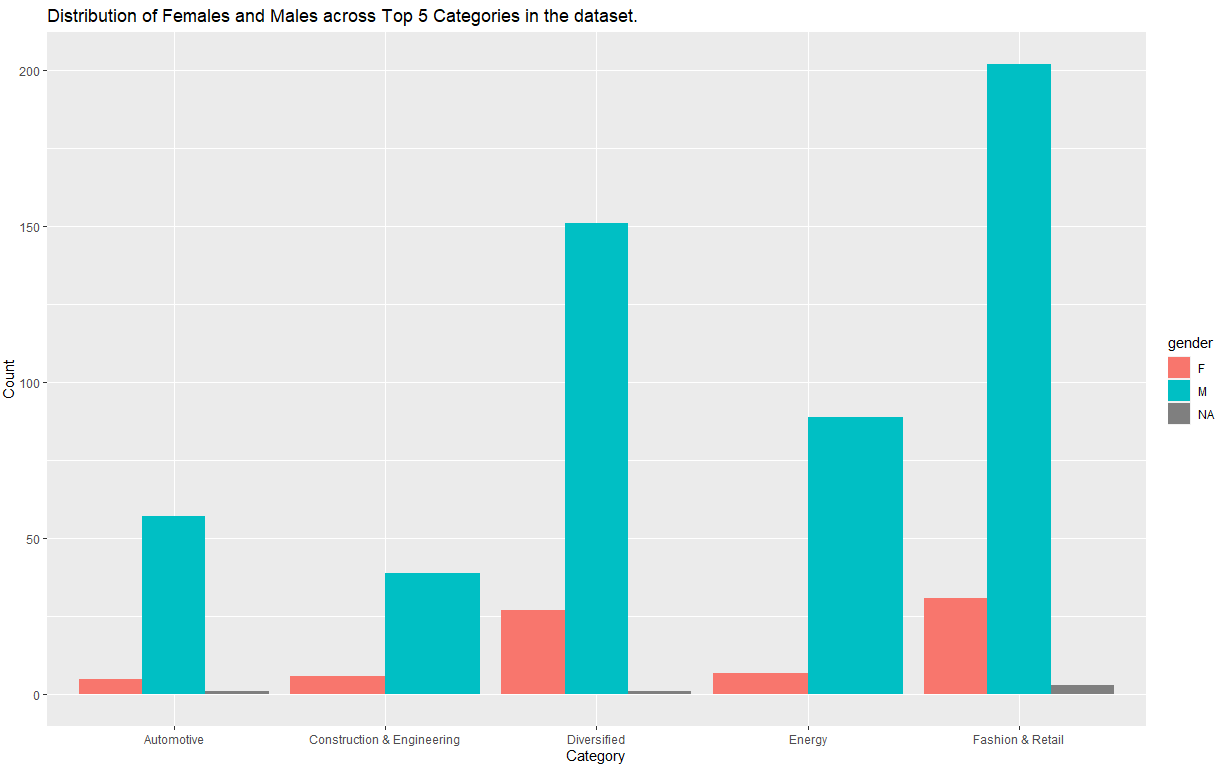


1. :



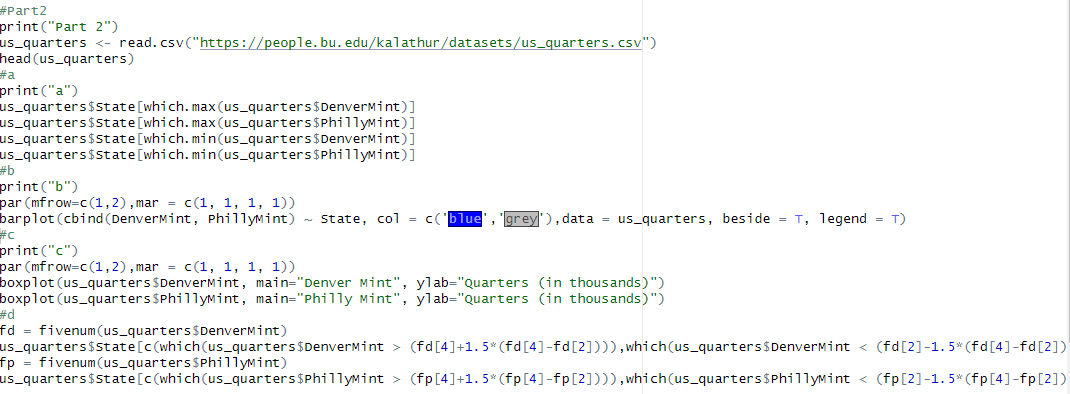


1. :

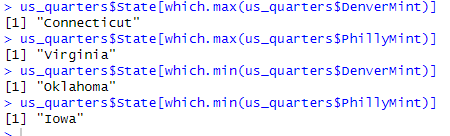


Part2

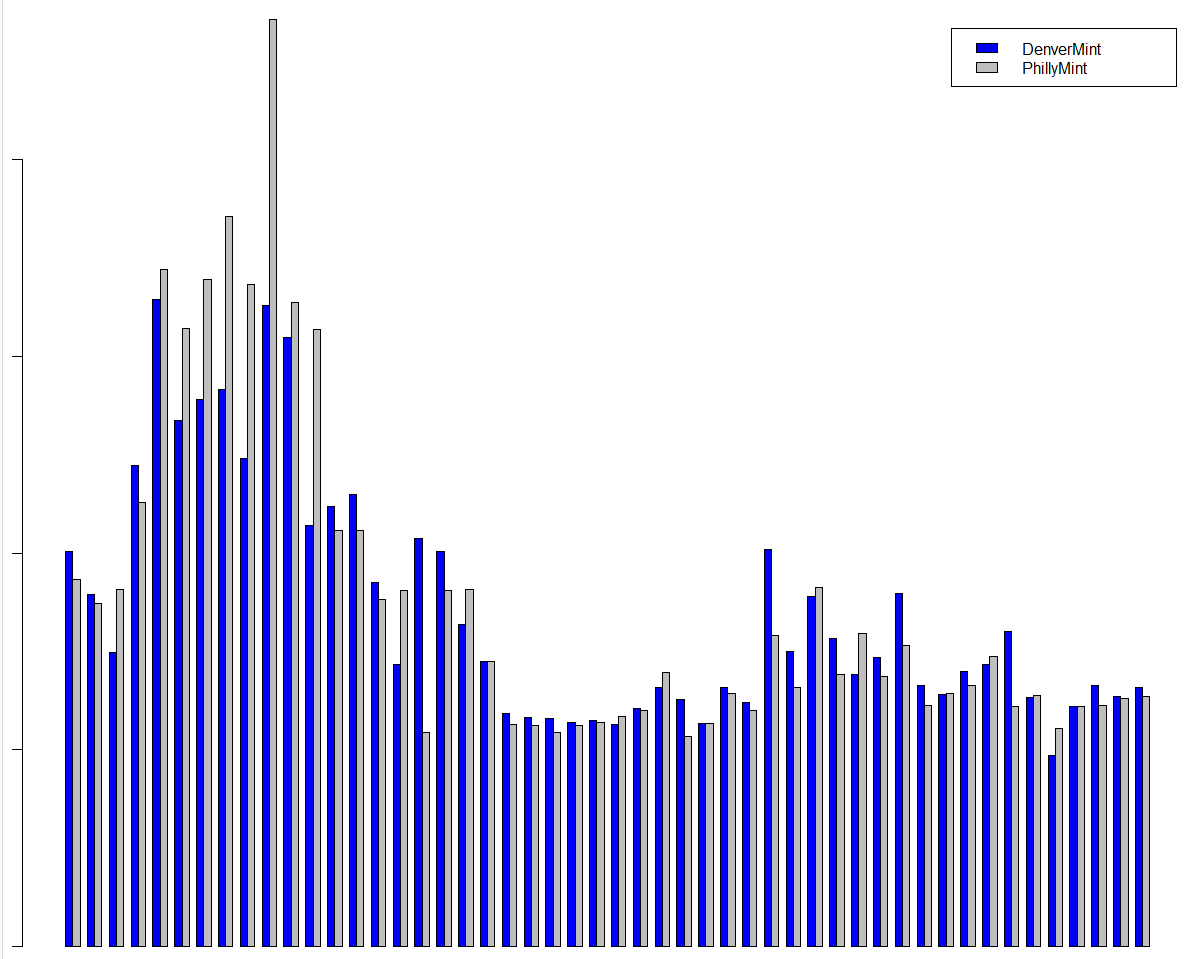
Code



1. :



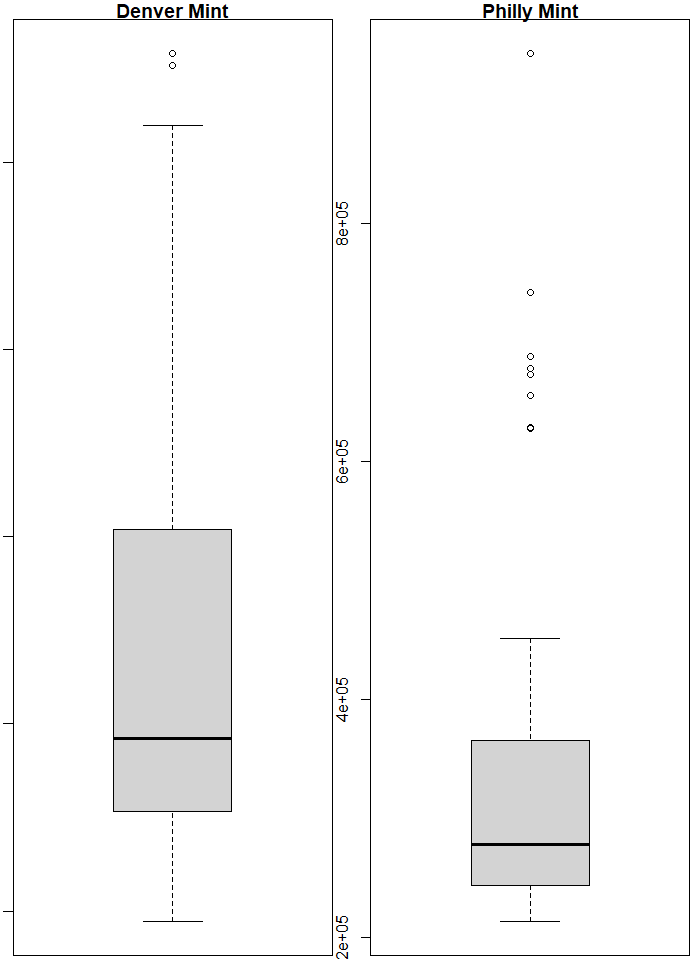
1. :



Two kind of mints have a strong correlation:these two mints cant have same amounts in each state.

From the barplot, i find there are some states have very high number of mints. These states could be outlier.

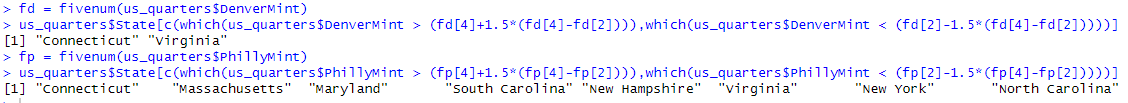
1. :



Philly mint has many outliers

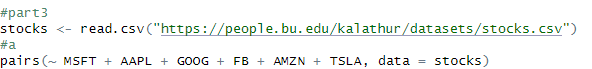
Denver mint has a bigger range amount than Philly mint

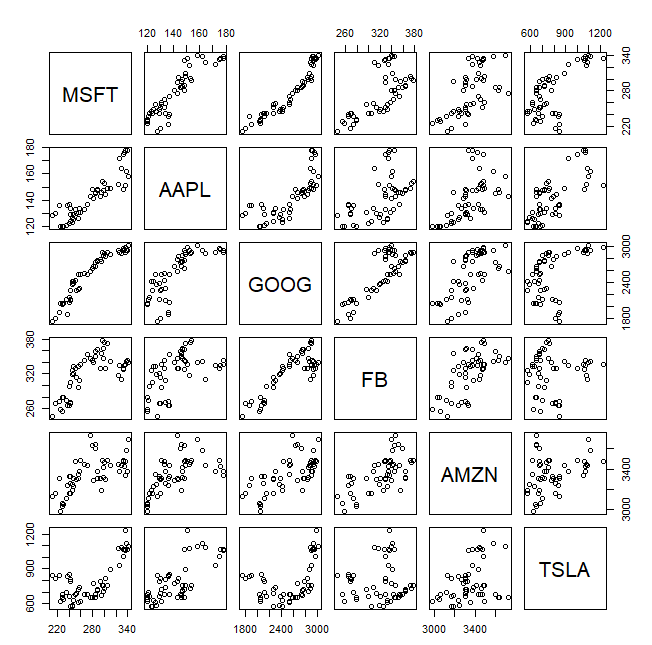
1. :



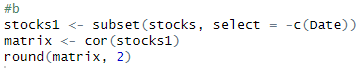
Part 3

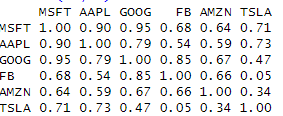
a):





b):





c):

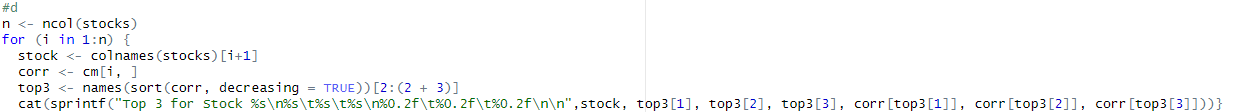
1:Two stocks move in the same direction, which means they have a positive correlation. Otherwise, it is a negative correlation.

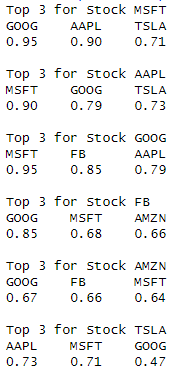
2:If two stocks have a value of 1, it represents a strong correlation, and if it is -1, it is a negative correlation. If it is 0, there is no correlation

3:The matrix only systemizes the linear correlation between stocks and does not contain other relationships

4:If the diagonal elements of the correlation matrix are all 1, it means that the stock is strongly correlated with itself

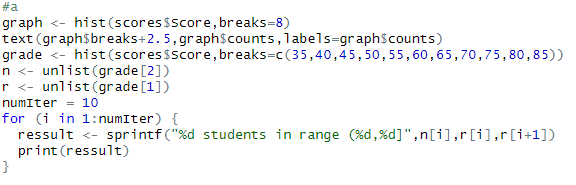
d):

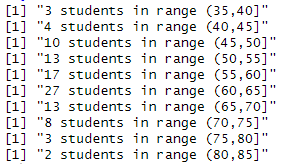


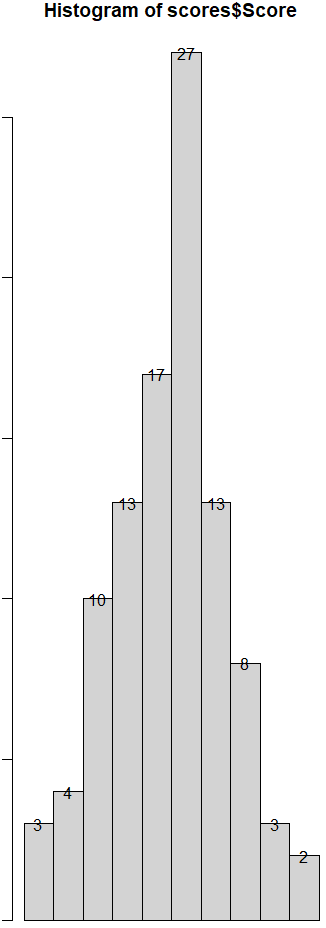


Part4

1. :







1. :

