



In [2]:

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import statistics
import numpy as np
import pandas as pd
filepath=r"nse_index.csv"
b = pd.read_csv(filepath)
filepath2=r"bse_index.csv"
a = pd.read_csv(filepath2)
nse_ret,bse_ret=[],[]

for i in range(59):
    nse_ret.append( (b.loc[i+1,'nse_index']-b.loc[i,'nse_index'])/b.loc[i,'nse_index'] )
    bse_ret.append( (a.loc[i+1,'bse_index']-a.loc[i,'bse_index'])/a.loc[i,'bse_index'] )
variable_nse_ret,var_bseret=statistics.variance(nse_ret),statistics.variance(bse_ret)

def main(type):
    s=['bse','nse','non_nse']
    t=['bsedata1.csv','nsedata1.csv','nse_non_index_data1.csv']
    if type==0:
        filepathn=r"bsedata1.csv"
    if type==1:
        filepathn=r"nsedata1.csv"
    if type==2:
        filepathn=r"nse_non_index_data1.csv"
    print('\nBeta for',s[type],'stocks\n')
    defcon1 = pd.read_csv(filepathn)
    stocks=[]
    m=0
    for col in defcon1.columns:
        if m>0:
            stocks.append(col)
        m+=1
    n=len(stocks)
    for i in range(n):
        print("Name of the stock :",stocks[i])
        temp,tempret=[],[]
        for j in range(60):
            temp.append( defcon1.loc[j,stocks[i]])
            if j>0:
                tempret.append( (temp[j]-temp[j-1])/temp[j-1] )

    if type==1 or type==2:
        u=sum(nse_ret)/len(nse_ret)
    else :
        u=sum(bse_ret)/len(bse_ret)
    v,c=sum(tempret)/len(tempret),0
    if type==1 or type==2:
        for k in range(len(tempret)):
            c+=(tempret[k]-v)*(nse_ret[k]-u)
        c=c/(len(tempret))
        print("The value of beta for the stock :", c/variable_nse_ret,'\n\n')
    else :
        for k in range(len(tempret)):
            c+=(tempret[k]-v)*(bse_ret[k]-u)
        c=c/(len(tempret))
        print("The value of beta for the stock :", c/var_bseret,'\n\n')
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print('\n\n', "*****", '\n\n')
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```
main(0)  
main(1)  
main(2)
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## Beta for bse stocks

Name of the stock : Ongc

The value of beta for the stock : 1.08858322783435

Name of the stock : JindalSteels

The value of beta for the stock : 2.0832697841505063

Name of the stock : Black rock

The value of beta for the stock : 0.5327379076393256

Name of the stock : Maruti Suzuki India Limited

The value of beta for the stock : 1.3896292164619517

Name of the stock : Apple Inc.

The value of beta for the stock : 0.6796207177299526

Name of the stock : Havells

The value of beta for the stock : 1.2312522933572667

Name of the stock : Reliance

The value of beta for the stock : 1.1687100351940407

Name of the stock : BombayDyeing

The value of beta for the stock : 1.804568745067697

Name of the stock : Berger Paints

The value of beta for the stock : 1.1098545088765204

Name of the stock : Nokia

The value of beta for the stock : 0.3203738720244072

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## Beta for nse stocks

Name of the stock : ICICI

The value of beta for the stock : 1.4197118121784449

Name of the stock : TataMotors

The value of beta for the stock : 1.5743905310295112

Name of the stock : Jp Morgan

The value of beta for the stock : 1.7036565205041632

Name of the stock : Voltas  
The value of beta for the stock : 1.8476505871528281

Name of the stock : BajajFinsv  
The value of beta for the stock : 0.9849919330366341

Name of the stock : Havells  
The value of beta for the stock : 1.2923951332206205

Name of the stock : Reliance  
The value of beta for the stock : 1.1391201536596052

Name of the stock : Asian Paints  
The value of beta for the stock : 0.9880432134584473

Name of the stock : Berger Paints  
The value of beta for the stock : 1.1543027290575334

Name of the stock : MuthootFin  
The value of beta for the stock : 1.1193626490580022

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Beta for non\_nse stocks

Name of the stock : Suzlon  
The value of beta for the stock : 1.8281729651195466

Name of the stock : Godfrey Phillips  
The value of beta for the stock : 0.8579864837295337

Name of the stock : Engineers India  
The value of beta for the stock : 1.5182537626978954

Name of the stock : Maharashtra Scooters  
The value of beta for the stock : 1.138903962511079

Name of the stock : KEI Industries  
The value of beta for the stock : 1.0722613674374672

Name of the stock : Sun Pharma  
The value of beta for the stock : 0.20006387795744165

Name of the stock : Travencore  
The value of beta for the stock : 1.5468434043552093

Name of the stock : Responsive  
The value of beta for the stock : 1.4246342307929858

Name of the stock : Heidelberg Cement  
The value of beta for the stock : 1.7785384850566772

Name of the stock : VST Industries  
The value of beta for the stock : 0.5558617839449694

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