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import matplotlib.pyplot as plt
def plotter(filename, country):
    with open(filename, 'r') as myfile:
        file=myfile.readlines()
        G=[]
        country_name=[]
        Date=[]
        cases=[]
        cumulative_cases=[]
        Deaths=[]
        cumulative_Deaths=[]
        for i in file:
            G.append(i.split(','))
        for k in G:
            Date.append(k[0])
            country_name.append(k[2])
            cases.append((k[4]))
            cumulative_cases.append(k[5])
            Deaths.append(k[6])
            cumulative_Deaths.append(k[7])
        Date.pop(0)
        country_name.pop(0)
        cases.pop(0)
        cumulative_cases.pop(0)
        Deaths.pop(0)
        cumulative_Deaths.pop(0)
        US_cases=[]
        US_Dates=[]
        US_cumulative_cases=[]
        US_Deaths=[]
        US_cumulative_Deaths=[]
        for i, c in enumerate(country_name):
            if c == country:
                US_cases.append(float(cases[i]))

US_cumulative_cases.append(float(cumulative_cases[i]))
US_Dates.append(Date[i])
US_Deaths.append(int(Deaths[i]))

US_cumulative_Deaths.append(int(cumulative_Deaths[i]))
plt.figure(1)
plt.plot(US_Dates,US_cases)
plt.title('Evolution of the cases of SARS-COVID19 in the
united states of america as a function of time')
plt.figure(2)
plt.plot(US_Dates,US_cumulative_cases)
plt.title('The cumulative cases of SARS-COVID19 in the
united states of america as a function of time')
plt.figure(3)
for i in range(len(US_Deaths)):
    if US_Deaths[i]<0:
        US_Deaths[i]=0
plt.plot(US_Dates,US_Deaths)
plt.title('Evolution of the number of Deaths in the united

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states of america as a function of time')
    plt.figure(4)
    plt.plot(US_Dates, US_cumulative_Deaths)
    plt.title('The cumulative Deaths of SARS-COVID19 in the
united states of america as a function of time')
    Cases_30=[]
    Deaths_30=[]
    correlation=[]
    months=[]
    m=0
    for i in range(0,len(US_cases),30):
        c=US_cases[i:i+30]
        d=US_Deaths[i:i+30]
        m+=1
        Cases_30.append(sum(c)/len(c))
        Deaths_30.append(sum(d)/len(d))
        months.append(m)
        if Deaths_30[m-1] !=0:
            x=Cases_30[m-1]/Deaths_30[m-1]
            correlation.append(x)
        else:
            correlation.append(0)
    plt.figure(5)
    plt.plot(months,Cases_30)
    plt.figure(6)
    plt.plot(months,Deaths_30)
    plt.figure(7)
    plt.plot(months,correlation)
    return months, Deaths_30
filename='WHO-COVID-19-global-data.csv'
[v, w] =plotter(filename,'United States of America')
#plotter(filename,'France')
#plotter(filename,'Spain')
with open('PFIZER.txt', 'r') as file:
    myfile=file.readlines()
    s=0
    prices=[]
    Days=[]
    for line in myfile:
        if s>0:
            X=line.strip().split('\t')
            prices.append(float(X[1]))
            Days.append(s-1)
        s+=1
    prices_30=[]
    months=[]
    m=0
    for i in range(0,len(prices),30):
        c=prices[i:i+30]
        m+=1
        prices_30.append(sum(c)/len(c))
        months.append(m)
    plt.figure(9)
    plt.plot(Days, prices)

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plt.figure(10)
fig, ax1=plt.subplots()
ax1.plot(months,prices_30)
ax2=ax1.twinx()
ax2.plot(v, w, color='green')
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