

Netflix Stock Data Visualization

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Python Visualization

This capstone project involves the data visualization of Netflix's stock data (NFLX) in 2007

Visualization involves:

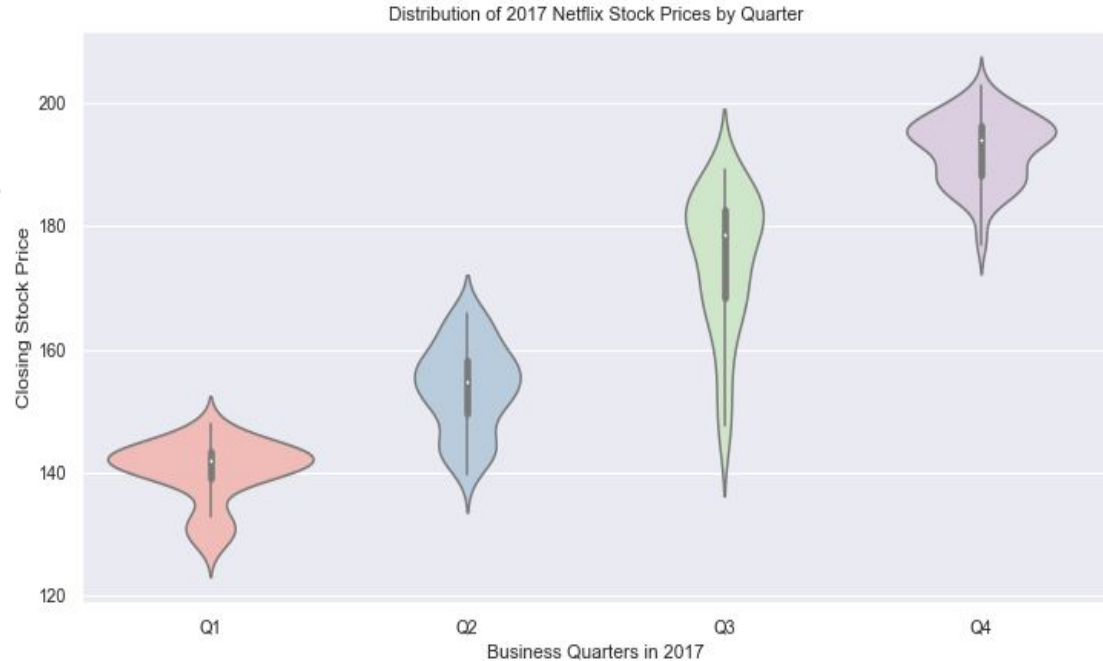
- The distribution of the stock prices for the past year
- Netflix's earnings and revenue in the last four quarters
- The actual vs. estimated earnings per share for the four quarters in 2017
- A comparison of the Netflix Stock price vs the Dow Jones Industrial Average price in 2017

Data gathered from Yahoo Finance

The Netflix logo, featuring the word "NETFLIX" in a bold, white, sans-serif font with a 3D effect, set against a solid red rectangular background.The Yahoo Finance logo, with the word "yahoo!" in a bold, purple, sans-serif font and the word "finance" in a smaller, purple, sans-serif font below it.

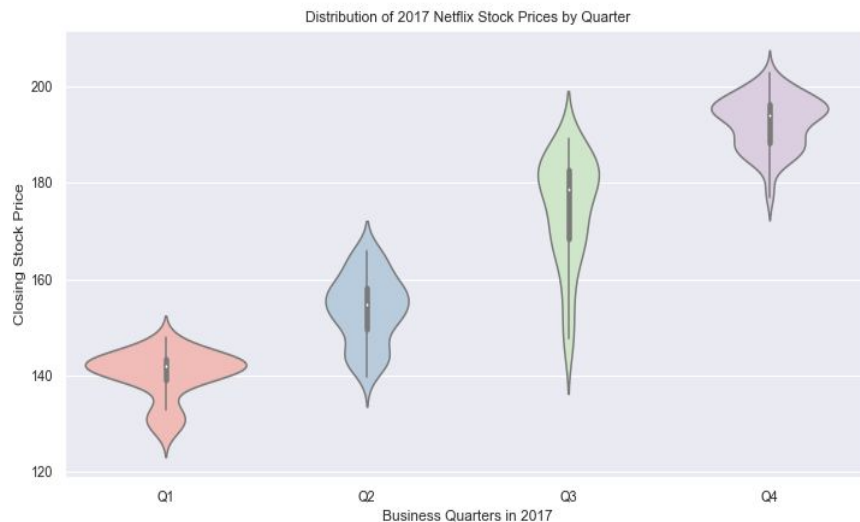
Netflix stock distribution in 2017

- General upward trend in stock prices
- Highest distribution in stock price occurred in Q3
- Max price: \$202
- Min price: \$127



Netflix stock distribution in 2017| code

```
fig, ax = plt.subplots(figsize = (12,6))
sns.set_palette('Pastel1')
sns.set_style('darkgrid')
sns.set_context('notebook')
sns.violinplot(data = netflix_stocks_quarterly, x = 'Quarter', y = 'Price')
ax.set_title('Distribution of 2017 Netflix Stock Prices by Quarter')
ax.set_xlabel('Business Quarters in 2017')
ax.set_ylabel('Closing Stock Price')
plt.savefig('violin.png')
```



Earnings Per Share (EPS)

- Actual EPS vs. Estimated EPS projected from data
- Actual and Estimated EPS is the same in Q2 and Q4
- +8.1% increase in earnings in Q1 than estimates
- -9.3% decrease in earnings in Q3 than estimates



Earnings Per Share (EPS)| code

```
x_positions = [1, 2, 3, 4]
chart_labels = ["1Q2017", "2Q2017", "3Q2017", "4Q2017"]
earnings_actual = [.4, .15, .29, .41]
earnings_estimate = [.37, .15, .32, .41]
plt.scatter(x_positions, earnings_actual, label = 'Actual', color= 'red', alpha=0.5, edgecolor = 'none')
plt.scatter(x_positions, earnings_estimate, label = 'Estimate', color='blue', alpha = .5, edgecolor = 'none')
plt.legend(loc = 'best')
plt.xticks(ticks = x_positions, labels = chart_labels)
plt.savefig('actual&estimated_earning.png')
```



Revenue vs. Earnings

- Upward trend in revenue and earnings
- Revenue increased by 32.62% by end of Q1 2018
- Earnings increased by 342.26% by the end of Q1 2018
- Earnings were 2.3% of the revenue in Q1 2017, while it rose to 7.27% of revenue in Q1 2018



Revenue vs. Earnings| code

```
# The metrics below are in billions of dollars
revenue_by_quarter = [2.79, 2.98, 3.29, 3.7]
earnings_by_quarter = [.0656, .12959, .18552, .29012]
quarter_labels = ["2Q2017", "3Q2017", "4Q2017", "1Q2018"]

# Revenue
n = 2 # This is our first dataset (out of 2)
t = 2 # Number of dataset
d = 4 # Number of sets of bars
w = 3 # Width of each bar
bars1_x = [t*element + w*n for element
            in range(d)]

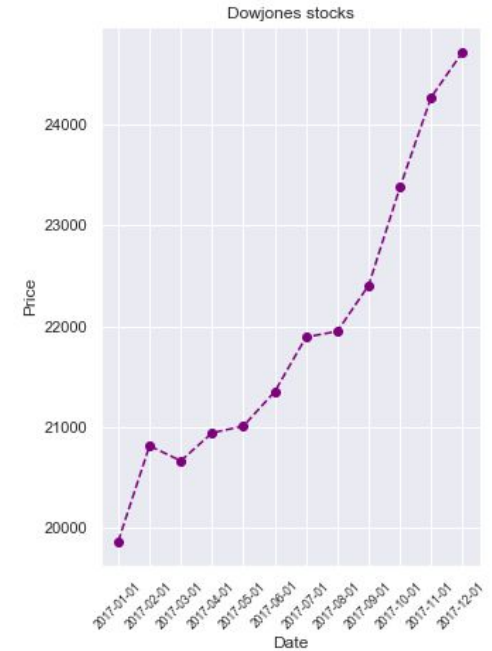
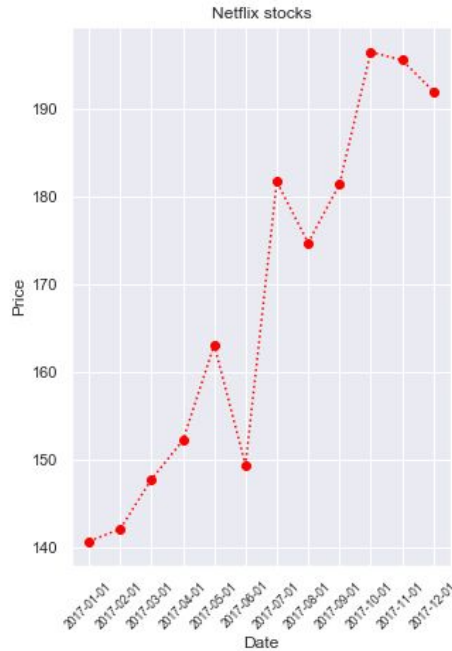
# Earnings
n = 2 # This is our second dataset (out of 2)
t = 2 # Number of dataset
d = 4 # Number of sets of bars
w = 3 # Width of each bar
bars2_x = [t*element + w*n for element
            in range(d)]

middle_x = [ (a + b) / 2.0 for a, b in zip(bars1_x, bars2_x)]
labels = ["Revenue", "Earnings"]
plt.bar(middle_x, revenue_by_quarter, label = 'Revenue')
plt.bar(middle_x, earnings_by_quarter, label = 'Earnings')
plt.title('Quarterly Revenue & Earning for year 2017')
plt.xlabel('Quarter')
plt.ylabel('Revenue/Earnings')
plt.xticks(middle_x, quarter_labels)
plt.legend(loc= 'upper left')
plt.savefig('Quartely_earnings&revenue.png')
```



Netflix stock compared to DJIA

- Netflix did fairly well compared to the Dow Jones
- Netflix was more volatile in prices
- Sharp decrease in Netflix stocks during May while DJIA was stable



Netflix stock compared to DJIA

```
x1 = netflix_stocks['Date']
y1 = netflix_stocks['Price']
x2 = dowjones_stocks['Date']
y2 = dowjones_stocks['Price']
fig = plt.figure(figsize = (12,7))
ax1= plt.subplot(1,2,1)
ax1.plot(x1, y1, linestyle = ':',marker = 'o',color='red')
ax1.set_title('Netflix stocks')
ax1.set_xlabel('Date')
ax1.set_ylabel('Price')
plt.xticks(rotation = 45, fontsize = 'x-small')

ax2 = plt.subplot(1,2,2)
ax2.plot(x2, y2, linestyle = '--', marker = 'o', color = 'purple')
ax2.set_title('Dowjones stocks')
ax2.set_xlabel('Date')
ax2.set_ylabel('Price')
plt.xticks(rotation = 45, fontsize = 'x-small')
plt.subplots_adjust(wspace = .5)
plt.savefig('Comparison_netflix&DJI.png')
```

