ShareSight: Stock Analysis and Market Dynamics

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Jahanzeb Ahmed
MedicAid.io LLC

Project Overview

In this project, my primary task is to help our clients make informed decisions about their stock investments.

My responsibilities include extracting vital financial data such as historical share prices and quarterly revenue reports. I will be gathering this data from various sources using Python libraries and web scraping techniques. The stocks I will be focusing on are industry leaders like Tesla, Amazon, AMD, and GameStop.

After collecting the necessary data, I will visualize it in a dashboard to identify and analyze patterns or trends. This dashboard will serve as a powerful tool for understanding the dynamics of these popular stocks with the tool: IBM Watson Studio.

By harnessing my skills in data analysis and visualization, I aim to provide valuable insights into the stock market, thereby guiding our clients' investment strategies. I am looking forward to making this project a success."

Goals

1. **Data Extraction**: Utilize Python libraries and web scraping techniques to extract vital financial data such as historical share prices and quarterly revenue reports from various sources. The focus will be on popular stocks like Tesla, Amazon, AMD, and GameStop.
2. **Data Visualization:** After collecting the data, visualize it in a comprehensive dashboard to identify patterns or trends. This will provide a clear view of key performance indicators (KPIs).
3. **Tool Utilization:** Use Skills Network Labs for hands-on labs and Watson Studio, a component of **IBM Cloud Pak** for Data, for developing and deploying the project. **Watson Studio** provides a suite of tools and a collaborative environment for data scientists, data analysts, AI and machine learning engineers, and domain experts.

4. **Investment Guidance**: The ultimate goal is to assist customers of the startup investment firm in making informed decisions about their stock investments by providing them with valuable insights into the stock market.
5. **Key Performance Indicators (KPIs)**: You will analyze the data set and extract key performance indicators. These KPIs will be displayed on the dashboard to provide a clear view of the performance.

Requirements

1. We will use the y-finance API to obtain the stock ticker and extract information about the stock.

Project Code

Python

```
!pip install yfinance==0.2.4

!pip install pandas==1.3.3

import yfinance as yf

import pandas as pd
```

Initializing Ticker symbol..

```
apple = yf.Ticker("AAPL")
```

Getting Downloading json file..

```
!wget
https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM
DeveloperSkillsNetwork-PY0220EN-SkillsNetwork/data/apple.json
```

Stock Info..

```
import json

with open('apple.json','r') as file:

    apple_info = json.load(file)
```

```
apple_info
```

We can get the 'country' using the key country..

```
apple_info['country']
```

```
Apple_info['bid']
```

Extracting Share Price..

```
apple_share_price_data = apple.history(period = 'max')
```

```
apple_share_price_data.head()
```

```
apple_share_price_data.reset_index(inplace = True)
```

```
apple_share_price_data.plot(x='Date',y='Open')
```

Extracting Dividends..

```
apple.dividends
```

```
apple.dividends.plot()
```

Dimensions..

```
apple_share_price_data.shape
```

Observations

```
Json = {'city': 'Cupertino',
 'phone': '408 996 1010',
 'state': 'CA',
 'country': 'United States',
 'companyOfficers': [],
 'website': 'https://www.apple.com',
 'maxAge': 1,
}
```

OpenHighLowCloseVolumeDividendsStock SplitsDate1980-12-12 00:00:00-05:000.0993190.0997500.0993190.0993194690336000.00.01980-12-15 00:00:00-05:000.0945690.0945690.0941370.0941371758848000.00.01980-12-16 00:00:00-05:000.0876590.0876590.0872280.0872281057280000.00.01980-12-17 00:00:00-05:000.0893870.0898180.0893870.089387864416000.00.01980-12-18 00:00:00-05:000.0919780.0924100.0919780.091978734496000.00.0
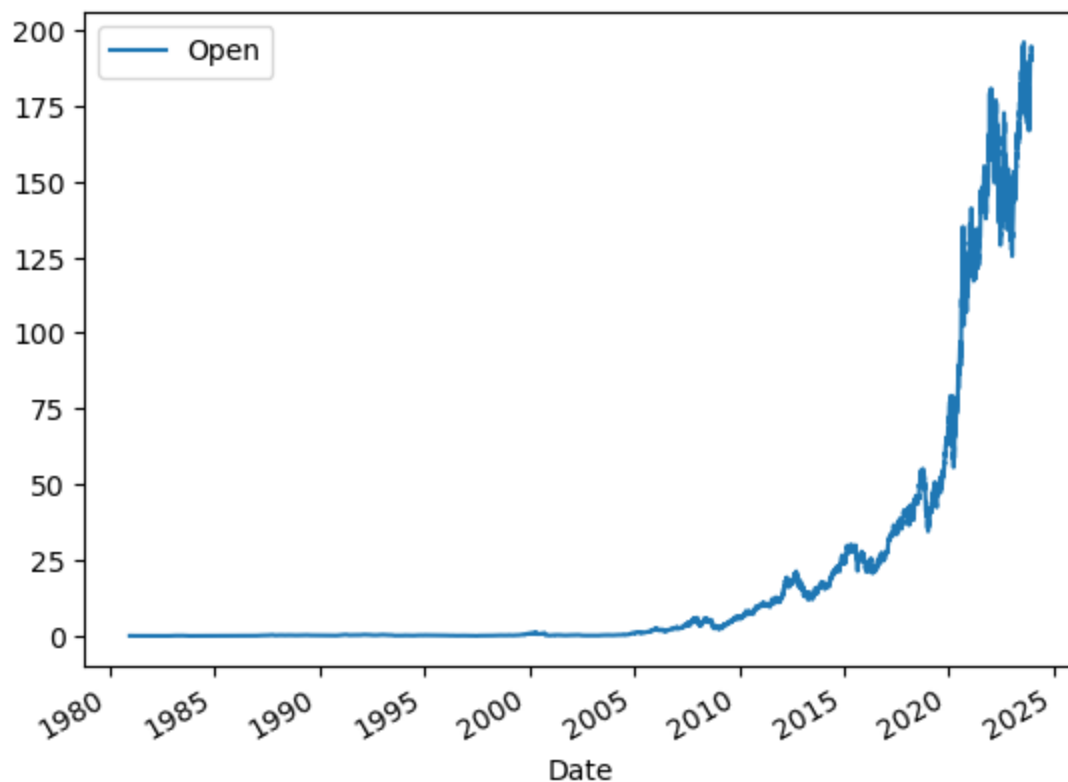
Date

1987-05-11 00:00:00-04:00   0.000536

1987-08-10 00:00:00-04:00   0.000536

1987-11-17 00:00:00-05:00   0.000714

1988-02-12 00:00:00-05:00   0.000714
1988-05-16 00:00:00-04:00   0.000714

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