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[1]: # Import panda and scipy libraries
import pandas as pd
from scipy import stats
import matplotlib.pyplot as plt

# Using panda read the stockchart.csv file
# Stockchart.csv file was the live daily chart of DOW Jones from
# September 22,2023
# In its column it will have the time in 10 minutes increament from
# the time it opens until it closes
data = pd.read_csv('stockchart.csv')

# Create a dataframe using the data from the csv file
df = pd.DataFrame(data)

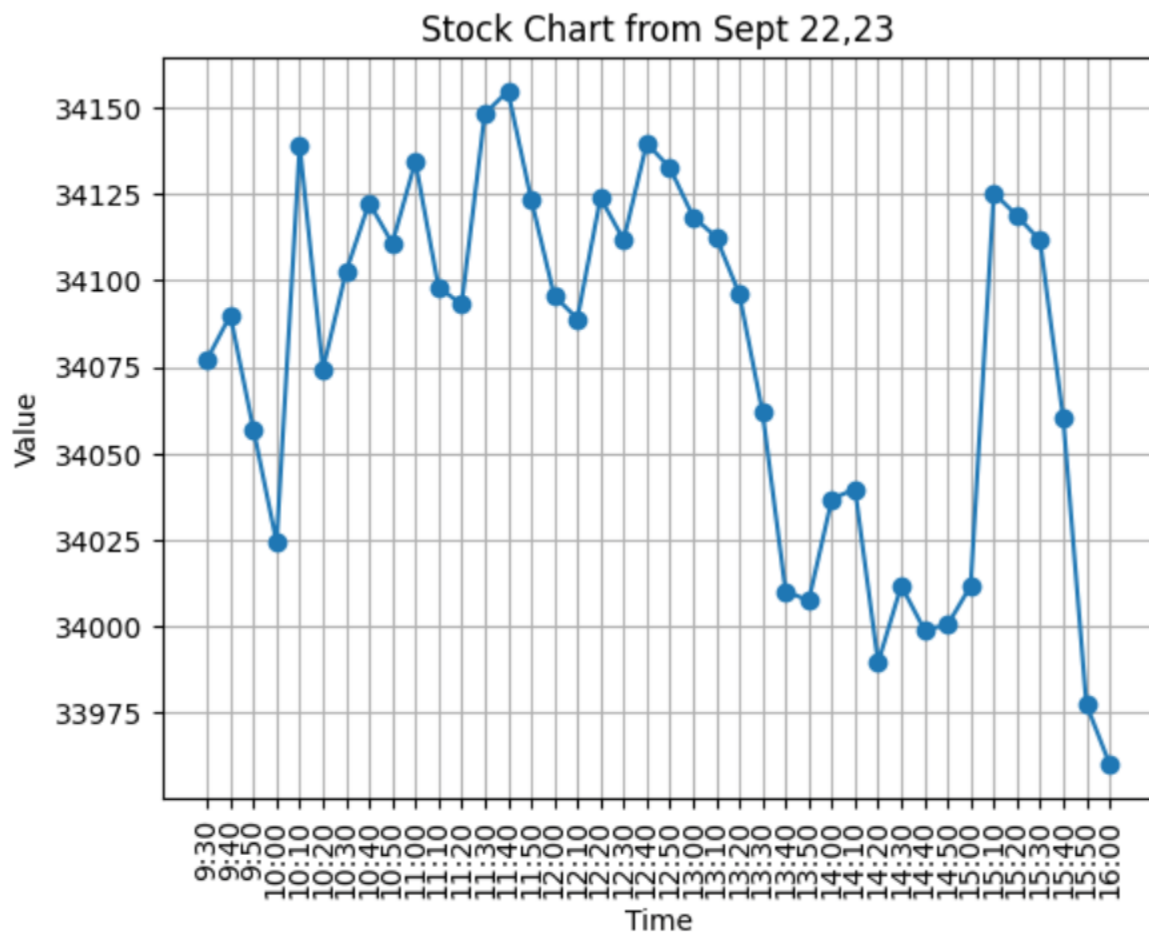
# calculate the z-score of the data
z_scores = stats.zscore(df['Price'])

# Create a new column that is titled Z Score and add the z_score for every time
df['Z_Score'] = z_scores

# Create a table that shows the time and price
plt.plot(df['Time'], df['Price'], marker='o', linestyle='--')
# Rotate the x-axis for readability
plt.xticks(rotation=90)

# Creat the labels and tile of the line graph
plt.xlabel('Time')
plt.ylabel('Value')
plt.title('Stock Chart from Sept 22,23')

# Show grids on the plot
plt.grid(True)
# Show the line graph
plt.show()
# Print out the dataframe
print(df)
```



| | Time | Price | Z_Score |
|----|-------|----------|-----------|
| 0 | 9:30 | 34077.15 | -0.001552 |
| 1 | 9:40 | 34089.93 | 0.239580 |
| 2 | 9:50 | 34056.90 | -0.383627 |
| 3 | 10:00 | 34024.22 | -1.000230 |
| 4 | 10:10 | 34139.03 | 1.165994 |
| 5 | 10:20 | 34074.23 | -0.056646 |
| 6 | 10:30 | 34102.38 | 0.474485 |
| 7 | 10:40 | 34122.45 | 0.853164 |
| 8 | 10:50 | 34110.71 | 0.631655 |
| 9 | 11:00 | 34134.35 | 1.077692 |
| 10 | 11:10 | 34097.93 | 0.390523 |
| 11 | 11:20 | 34093.11 | 0.299580 |
| 12 | 11:30 | 34148.19 | 1.338824 |
| 13 | 11:40 | 34154.73 | 1.462220 |
| 14 | 11:50 | 34123.58 | 0.874485 |
| 15 | 12:00 | 34095.53 | 0.345240 |
| 16 | 12:10 | 34088.90 | 0.220146 |
| 17 | 12:20 | 34123.87 | 0.879956 |
| 18 | 12:30 | 34111.69 | 0.650145 |
| 19 | 12:40 | 34139.61 | 1.176937 |
| 20 | 12:50 | 34132.53 | 1.043352 |
| 21 | 13:00 | 34118.41 | 0.776938 |
| 22 | 13:10 | 34112.51 | 0.665617 |
| 23 | 13:20 | 34096.05 | 0.355051 |
| 24 | 13:30 | 34061.97 | -0.287967 |
| 25 | 13:40 | 34010.13 | -1.266078 |
| 26 | 13:50 | 34007.39 | -1.317777 |
| 27 | 14:00 | 34036.80 | -0.762872 |
| 28 | 14:10 | 34039.67 | -0.708721 |
| 29 | 14:20 | 33989.47 | -1.655889 |
| 30 | 14:30 | 34011.71 | -1.236267 |
| 31 | 14:40 | 33998.94 | -1.477210 |
| 32 | 14:50 | 34000.36 | -1.450418 |
| 33 | 15:00 | 34011.69 | -1.236645 |
| 34 | 15:10 | 34125.27 | 0.906371 |
| 35 | 15:20 | 34118.68 | 0.782032 |
| 36 | 15:30 | 34111.52 | 0.646938 |
| 37 | 15:40 | 34060.07 | -0.323816 |
| 38 | 15:50 | 33977.40 | -1.883625 |
| 39 | 16:00 | 33960.23 | -2.207587 |