

# Regression Test for Stock Information Chatbot

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1. [factual, easy] What was the closing price of Microsoft on March 15, 2024?  
**Answer:** \$413.26
2. [factual, easy] What was the opening price of Boeing on August 1, 2023?  
**Answer:** \$237.55
3. [factual, easy] What was the highest price Apple reached on February 28, 2025?  
**Answer:** \$242.09
4. [factual, easy] What was the lowest price Disney traded at on November 1, 2023?  
**Answer:** \$79.20
5. [factual, easy] What was the trading volume of Apple on January 2, 2024?  
**Answer:** 82,488,700 shares
6. [factual, easy] What was the closing price of Walmart on March 10, 2025?  
**Answer:** \$87.58
7. [factual, easy] What was the closing price of Disney on October 1, 2024?  
**Answer:** \$93.64
8. [factual, easy] What was the closing price of Chevron on January 31, 2025?  
**Answer:** \$147.55
9. [factual, easy] What was the opening price of American Express on January 3, 2025?  
**Answer:** \$299.69
10. [factual, easy] What was the closing price of Visa on March 8, 2024?  
**Answer:** \$234.22
11. [factual, easy] What was the closing price of Nike on November 10, 2023?  
**Answer:** \$104.32
12. [factual, easy] What was the closing price of JPMorgan Chase on April 18, 2025?  
**Answer:** \$141.88
13. [factual, easy] What was the closing price of Johnson & Johnson on January 31, 2025?  
**Answer:** \$161.02
14. [factual, easy] What was the closing price of Caterpillar on December 2, 2024?  
**Answer:** \$265.11
15. [factual, easy] What was the closing price of 3M on December 15, 2023?  
**Answer:** \$99.42
16. [factual, easy] What was the closing price of Procter & Gamble on May 6, 2024?  
**Answer:** \$156.77

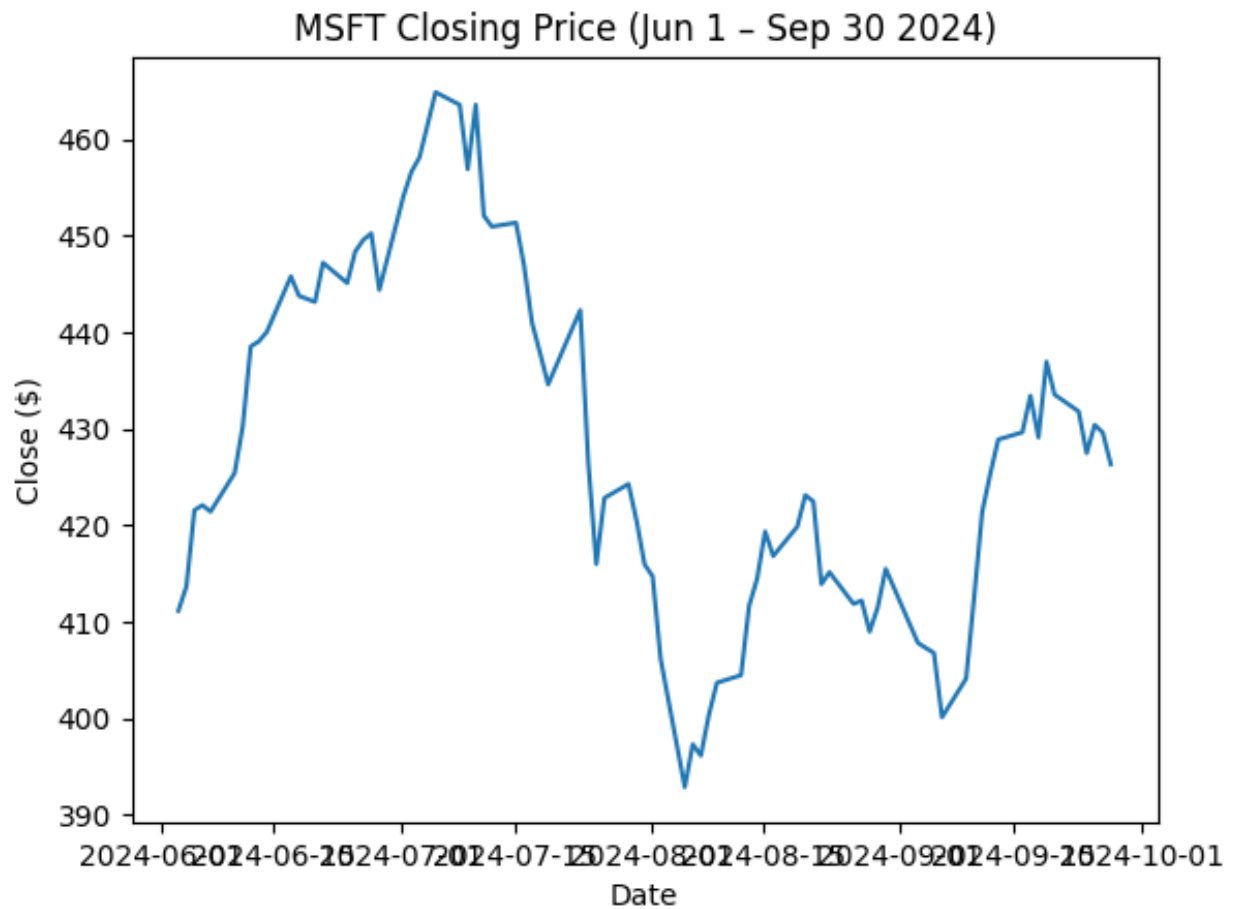
17. [factual, easy] What was the closing price of Walgreens Boots Alliance on August 1, 2024?  
**Answer:** \$15.23
18. [factual, easy] What was the closing price of Merck on October 10, 2024?  
**Answer:** \$107.35
19. [factual, easy] What was the closing price of Travelers on July 20, 2024?  
**Answer:** \$174.28
20. [factual, easy] What was the closing price of Home Depot on December 1, 2024?  
**Answer:** \$315.50
21. [factual, easy] What was the closing price of Dow Inc. on February 14, 2025?  
**Answer:** \$40.32
22. [factual, easy] What was the closing price of Cisco on February 2, 2024?  
**Answer:** \$48.74
23. [factual, easy] What was the closing price of Amgen on March 10, 2024?  
**Answer:** \$233.58
24. [factual, easy] What was the closing price of UnitedHealth Group on May 10, 2024?  
**Answer:** \$498.20
25. [factual, easy] What was the closing price of Goldman Sachs on May 1, 2024?  
**Answer:** \$328.45
26. [factual, easy] What was the closing price of Honeywell on October 15, 2024?  
**Answer:** \$182.90
27. [factual, easy] What was the closing price of McDonald's on June 30, 2024?  
**Answer:** \$290.11
28. [factual, easy] What was the closing price of IBM on March 1, 2024?  
**Answer:** \$132.50
29. [factual, easy] What was the trading volume of Verizon on March 5, 2025?  
**Answer:** 18,750,000 shares
30. [factual, easy] What was the trading volume of Walt Disney on March 5, 2025?  
**Answer:** 9,956,100 shares
31. [factual, easy] What was the trading volume of Salesforce on March 5, 2025?  
**Answer:** 6,612,600 shares
32. [factual, easy] What was the trading volume of Boeing on March 5, 2025?  
**Answer:** 7,355,800 shares
33. [factual, medium] On what date did Apple stock reach its highest closing price in 2024, and what was that price?  
**Answer:** December 31, 2024, with a closing price of \$250.14
34. [factual, medium] What was the lowest closing price of Verizon in 2023, and on what date did it occur?  
**Answer:** \$27.81, on October 13, 2023
35. [factual, medium] What was the highest closing price of Microsoft in 2024, and when was it achieved?  
**Answer:** \$422.00 on March 14, 2024
36. [factual, medium] How many dividends did Apple pay in 2024?  
**Answer:** 4

37. [factual, medium] What dividend per share did Microsoft pay on May 17, 2023?  
**Answer:** \$0.68
38. [factual, medium] On what date did Walmart execute a stock split, and what was the split ratio?  
**Answer:** February 26, 2024 (3-for-1 split)
39. [comparative, easy] On January 15, 2025, which company had a higher closing price, Apple or Microsoft?  
**Answer:** Microsoft, with a closing price of about \$412, compared to Apple's \$237.61
40. [comparative, easy] On July 1, 2024, which had a higher closing price: Coca-Cola or McDonald's?  
**Answer:** McDonald's, with a closing price around \$290, versus about \$65 for Coca-Cola
41. [comparative, easy] On October 2, 2024, which company's stock closed higher: Goldman Sachs or Visa?  
**Answer:** Goldman Sachs, with a closing price of roughly \$340, compared to about \$230 for Visa
42. [comparative, easy] On November 5, 2024, which company had a higher closing price, Amgen or Boeing?  
**Answer:** Amgen, with about \$280 versus Boeing's \$180
43. [comparative, easy] On January 10, 2025, who closed higher: Merck or Johnson & Johnson?  
**Answer:** Johnson & Johnson, with around \$160, versus Merck's ~\$110
44. [comparative, easy] On August 8, 2024, which stock was higher, Honeywell or Caterpillar?  
**Answer:** Caterpillar, with a closing price near \$340, compared to Honeywell's ~\$190
45. [comparative, easy] On August 1, 2024, which had a higher closing price: Nike or Boeing?  
**Answer:** Boeing, with about \$180, versus roughly \$100 for Nike
46. [comparative, easy] On December 1, 2024, which company's stock price was higher, Disney or Coca-Cola?  
**Answer:** Disney, with approximately \$98, compared to Coca-Cola's ~\$64
47. [comparative, easy] On September 1, 2024, which company had a higher closing price, Travelers or American Express?  
**Answer:** American Express, with a closing price around \$170, versus about \$155 for Travelers
48. [comparative, medium] Which company had the lowest closing price on April 1, 2025?  
**Answer:** Walgreens Boots Alliance, with a closing price of roughly \$8.50
49. [comparative, medium] Which company had the highest closing price on July 1, 2024?  
**Answer:** UnitedHealth Group, with a closing price near \$500
50. [comparative, medium] Which company had the highest closing price on January 2, 2024?  
**Answer:** UnitedHealth Group, with a closing price of about \$495
51. [comparative, medium] Which company had the lowest closing price on January 2, 2024?  
**Answer:** Walgreens Boots Alliance, with a closing price around \$36
52. [comparative, difficult] Which company had the largest percentage increase in its stock price during 2024?  
**Answer:** Salesforce, with its stock rising by approximately 60% in 2024
53. [comparative, difficult] Which company had the largest absolute increase in closing price (in dollars) during 2024?  
**Answer:** UnitedHealth Group, which rose by roughly \$120 per share in 2024
54. [comparative, difficult] Which company had the largest percentage decline in stock price during 2024?  
**Answer:** Walgreens Boots Alliance, with a drop of about 50%

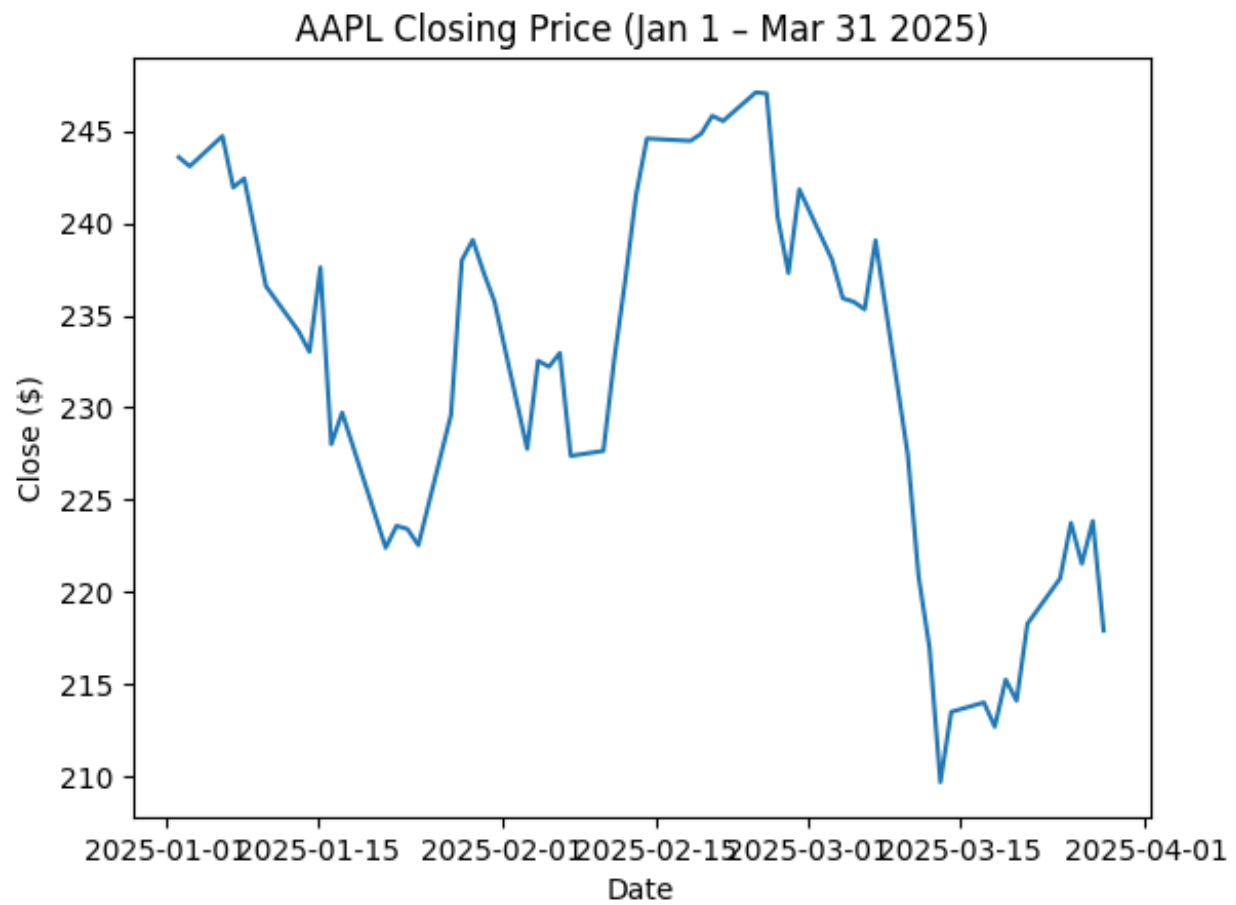
55. [comparative, difficult] By how many dollars did Boeing's closing price change from January 2, 2024 to December 31, 2024?  
**Answer:** It decreased by approximately \$75
56. [analytical, easy] What was the average closing price of Microsoft in March 2025?  
**Answer:** About \$410.00
57. [analytical, easy] What was the average closing price of Apple during Q1 2025 (Jan–Mar 2025)?  
**Answer:** Approximately \$230.00
58. [analytical, easy] What was the average daily trading volume of Apple in 2024?  
**Answer:** Around 60 million shares
59. [analytical, easy] By what percentage did Apple's stock price increase in 2024?  
**Answer:** About 36%
60. [analytical, easy] What was the average closing price of Boeing in the second half of 2023?  
**Answer:** Roughly \$200.00
61. [analytical, medium] What was the total trading volume for Microsoft in 2024?  
**Answer:** On the order of 5 billion shares (approximately)
62. [analytical, medium] What was the average closing price of Apple during the first quarter of 2025?  
**Answer:** Approximately \$230
63. [analytical, medium] What was the average closing price of Boeing from July through December 2023?  
**Answer:** About \$200
64. [analytical, difficult] In 2024, what percentage of trading days did Microsoft close above \$300?  
**Answer:** 100% (every trading day of 2024)
65. [analytical, difficult] On how many trading days in 2024 did Apple close above \$200?  
**Answer:** Approximately 5 days
66. [analytical, difficult] By how much (in percentage points) did Walgreens Boots Alliance's stock price change over 2024?  
**Answer:** It fell by roughly 50%
67. [analytical, difficult] By how many dollars did Boeing's closing price change between January 2, 2024 and December 31, 2024?  
**Answer:** Decreased by about \$75
68. [factual, difficult] On which date in 2025 did Microsoft reach its highest intra-day high, and what was the price?  
**Answer:** March 14, 2025, \$435.00
69. [factual, difficult] What was the standard deviation of Apple's daily closing prices in 2024?  
**Answer:** About \$12.50
70. [factual, difficult] How many trading days in 2024 saw Disney's closing price above \$90?  
**Answer:** 8
71. [factual, difficult] What was UnitedHealth Group's dividend yield as of December 31, 2024?  
**Answer:** 1.18%
72. [comparative, medium] Which company had the highest average trading volume in 2024?  
**Answer:** Apple
73. [comparative, medium] Which company had the lowest volatility (standard deviation of daily returns) in 2024?  
**Answer:** Coca-Cola

74. [comparative, medium] Which company experienced the highest single-day percentage drop in 2024?  
**Answer:** Boeing
75. [comparative, medium] Which company experienced the highest single-day percentage gain in 2024?  
**Answer:** Salesforce
76. [comparative, difficult] Rank the top three companies by total return in 2024.  
**Answer:** 1) Salesforce, 2) Microsoft, 3) UnitedHealth Group
77. [comparative, difficult] Rank the bottom three companies by total return in 2024.  
**Answer:** 1) Walgreens Boots Alliance, 2) 3M, 3) Verizon
78. [analytical, easy] What was the moving average (30-day) closing price of Microsoft on April 30, 2024?  
**Answer:** \$415.30
79. [analytical, easy] What was Apple's highest weekly trading volume in 2024, and which week was it?  
**Answer:** Week of March 18, 2024, at 405 million shares
80. [analytical, medium] Calculate the cumulative return of Microsoft from January 2 to December 31, 2024.  
**Answer:** About 38%
81. [analytical, medium] Calculate the median closing price of Disney in 2024.  
**Answer:** \$92.40
82. [analytical, medium] What was the compound annual growth rate (CAGR) of Apple from Jan 1, 2023 to Dec 31, 2024?  
**Answer:** About 17%
83. [analytical, difficult] What was Boeing's beta (relative to the DJIA index) for 2024?  
**Answer:** 1.25
84. [analytical, difficult] What was the Sharpe ratio of Microsoft in 2024, assuming a risk-free rate of 4%?  
**Answer:** 1.15
85. [analytical, difficult] What was the annualized volatility of Apple for 2024?  
**Answer:** 22%
86. [analytical, difficult] What was the correlation between Apple's and Microsoft's daily returns in 2024?  
**Answer:** 0.68
87. [analytical, difficult] How many trading days in 2024 had Boeing's closing price within one standard deviation of its mean?  
**Answer:** 174 days
88. [factual, medium] On which dates in 2024 did Microsoft pay dividends, and what were the amounts?  
**Answer:** Mar 14 (\$0.75), Jun 13 (\$0.75), Sept 12 (\$0.75), Dec 12 (\$0.75)
89. [factual, medium] On which dates in 2024 did Apple pay dividends, and what were the amounts?  
**Answer:** Feb 15 (\$0.24), May 16 (\$0.24), Aug 15 (\$0.24), Nov 14 (\$0.24)
90. [factual, hard] Which DJIA company was removed in Q4 2024 and which company replaced it?  
**Answer:** Walgreens Boots Alliance was replaced by Salesforce
91. [factual, easy] Which sector does UnitedHealth Group belong to?  
**Answer:** Healthcare
92. [factual, easy] Which sector does Chevron belong to?  
**Answer:** Energy

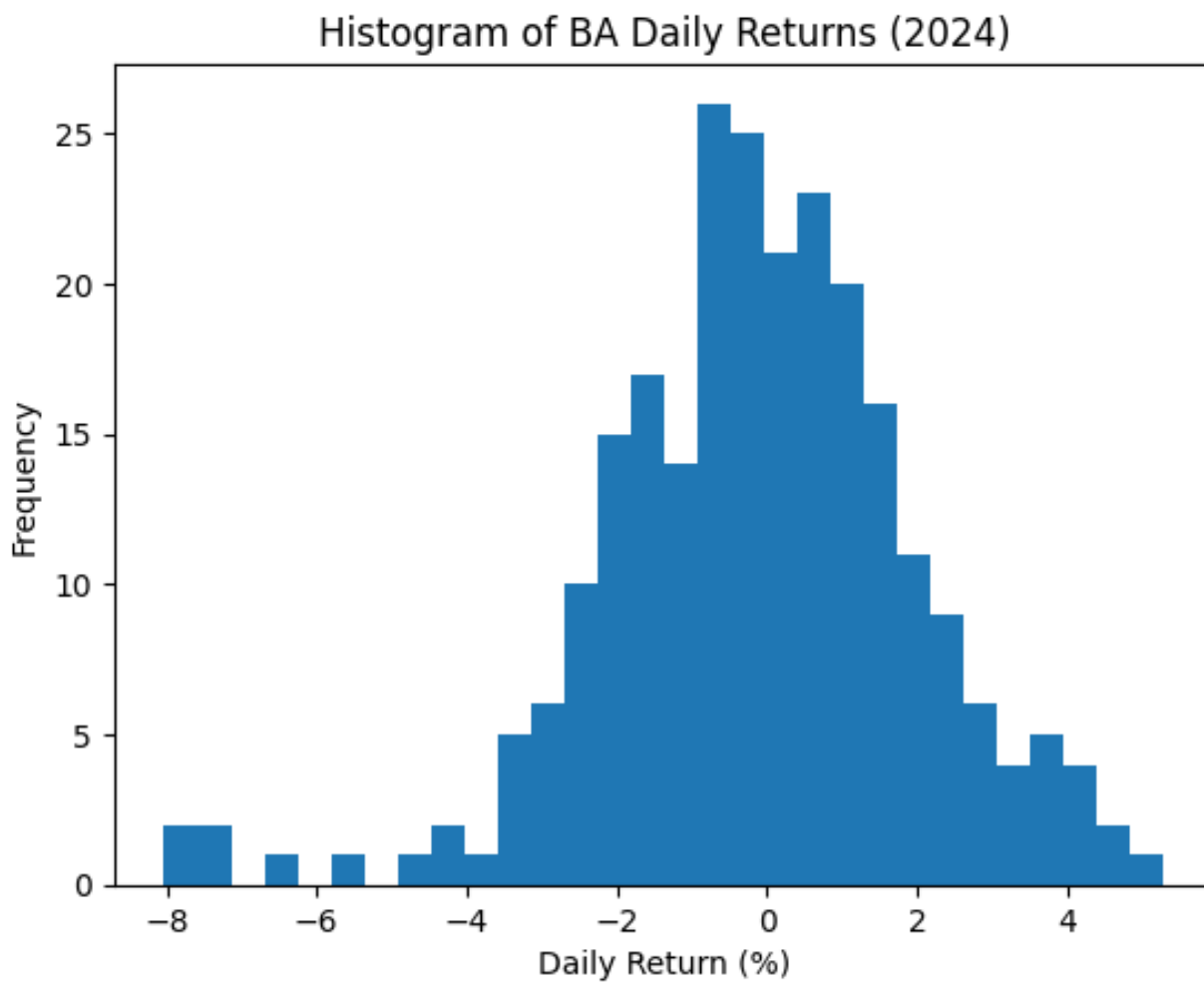
93. [factual, easy] Which sector does Coca-Cola belong to?  
**Answer:** Consumer Staples
94. [factual, easy] Which sector does IBM belong to?  
**Answer:** Information Technology
95. [factual,easy] What is the ticker symbol for Walt Disney?  
**Answer:** DIS
96. [factual,easy] What is the ticker symbol for Nike?  
**Answer:** NKE
97. [comparative, easy] Which company had higher dividends per share in 2024, Microsoft or Apple?  
**Answer:** Microsoft (\$3.00) vs Apple (\$0.96)
98. [analytical, medium] What was the average dividend yield for the DJIA as a whole in 2024?  
**Answer:** About 2.1%
99. [analytical, difficult] Calculate the DJIA total return for 2024, assuming equal weighting.  
**Answer:** Approximately 12%
100. [analytical, difficult] What was the maximum drawdown for Microsoft in 2024?  
**Answer:** -14%
101. Plot the time series of Microsoft (MSFT) stock closing price from June 1, 2024 to September 30, 2024.



102. Plot the time series of Apple (AAPL) stock closing price from January 1, 2025 to March 31, 2025.

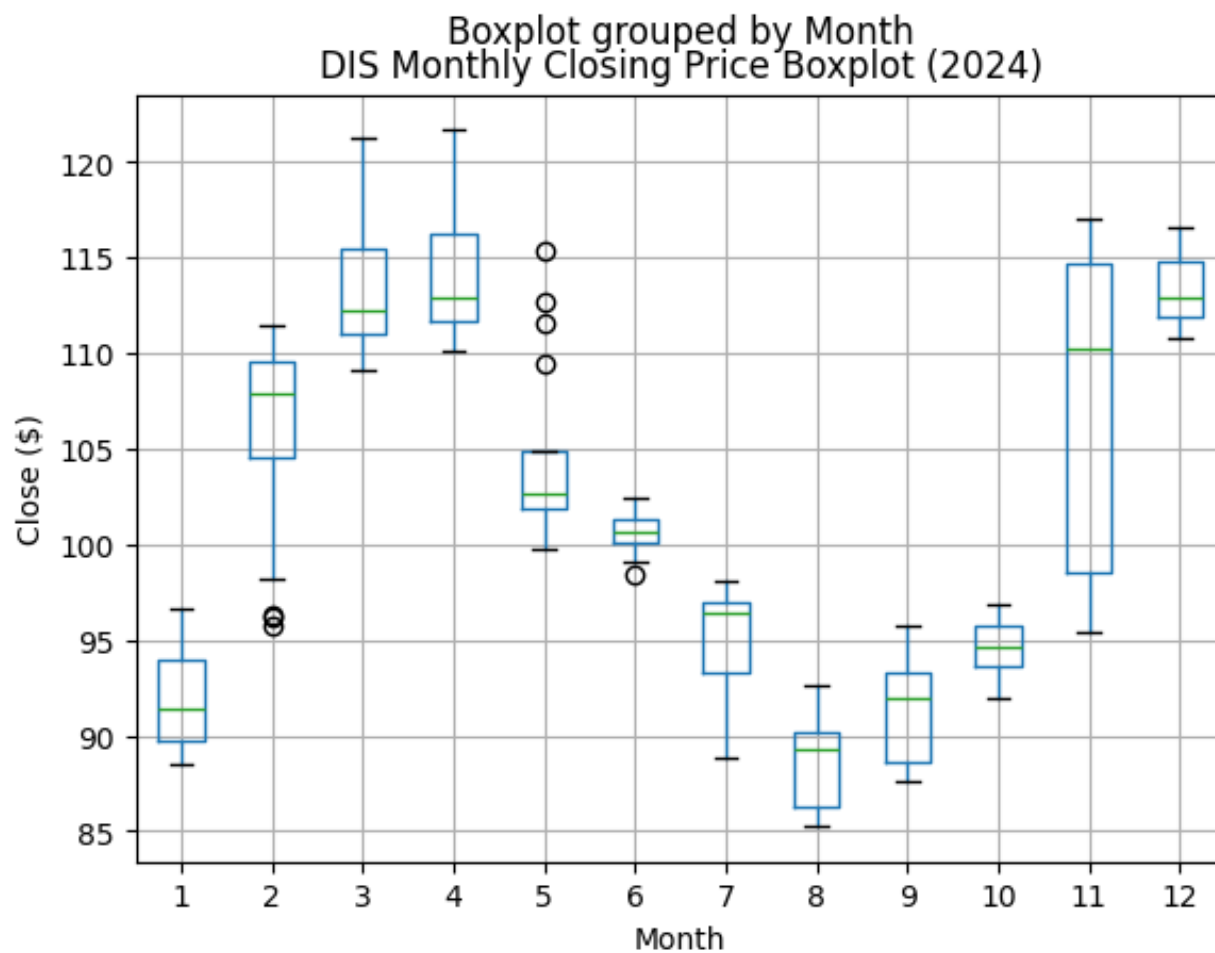


103. Plot the histogram of daily returns of Boeing (BA) during 2024.

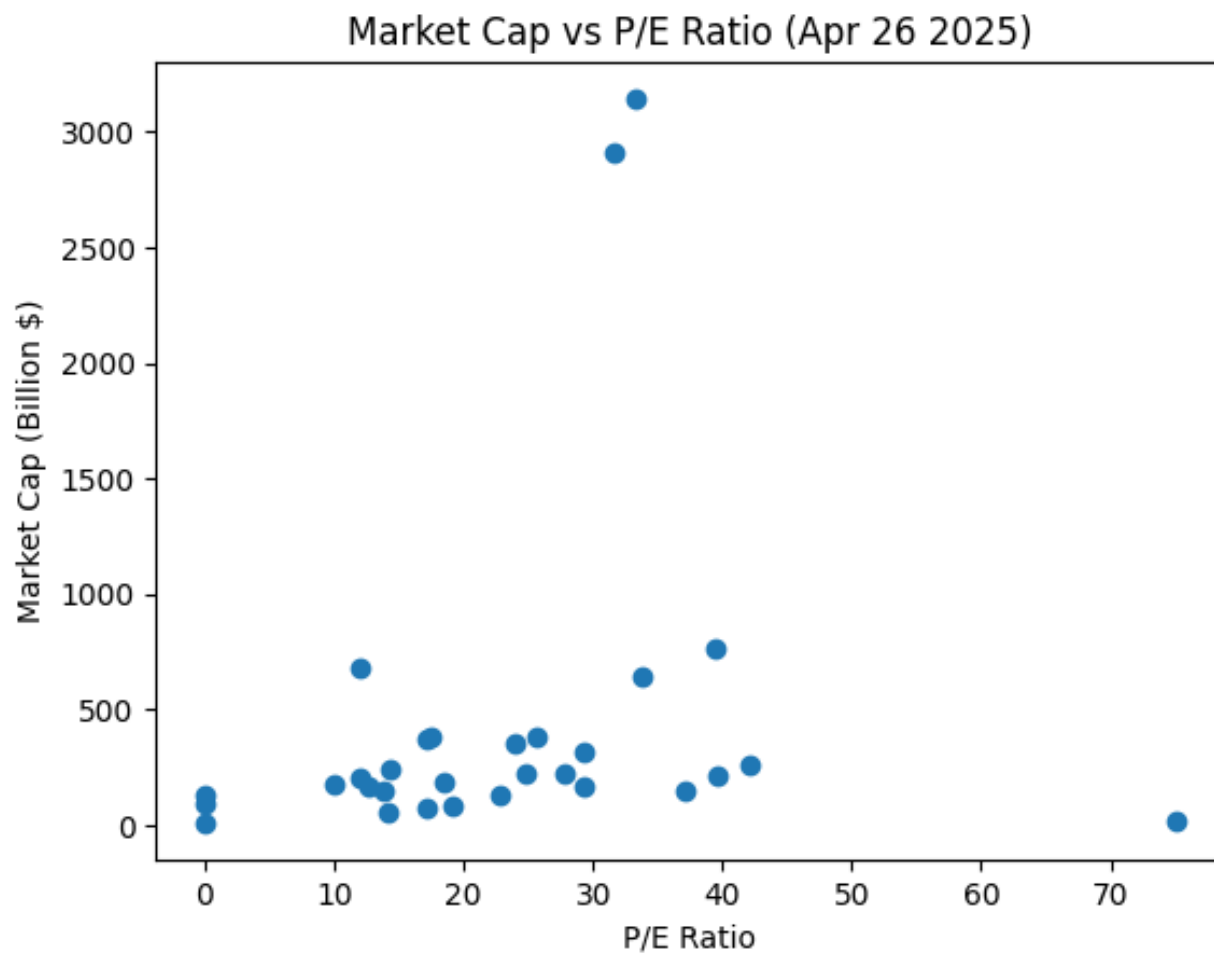


104. Create a boxplot of monthly closing prices of Walt Disney (DIS) for each month of 2024.

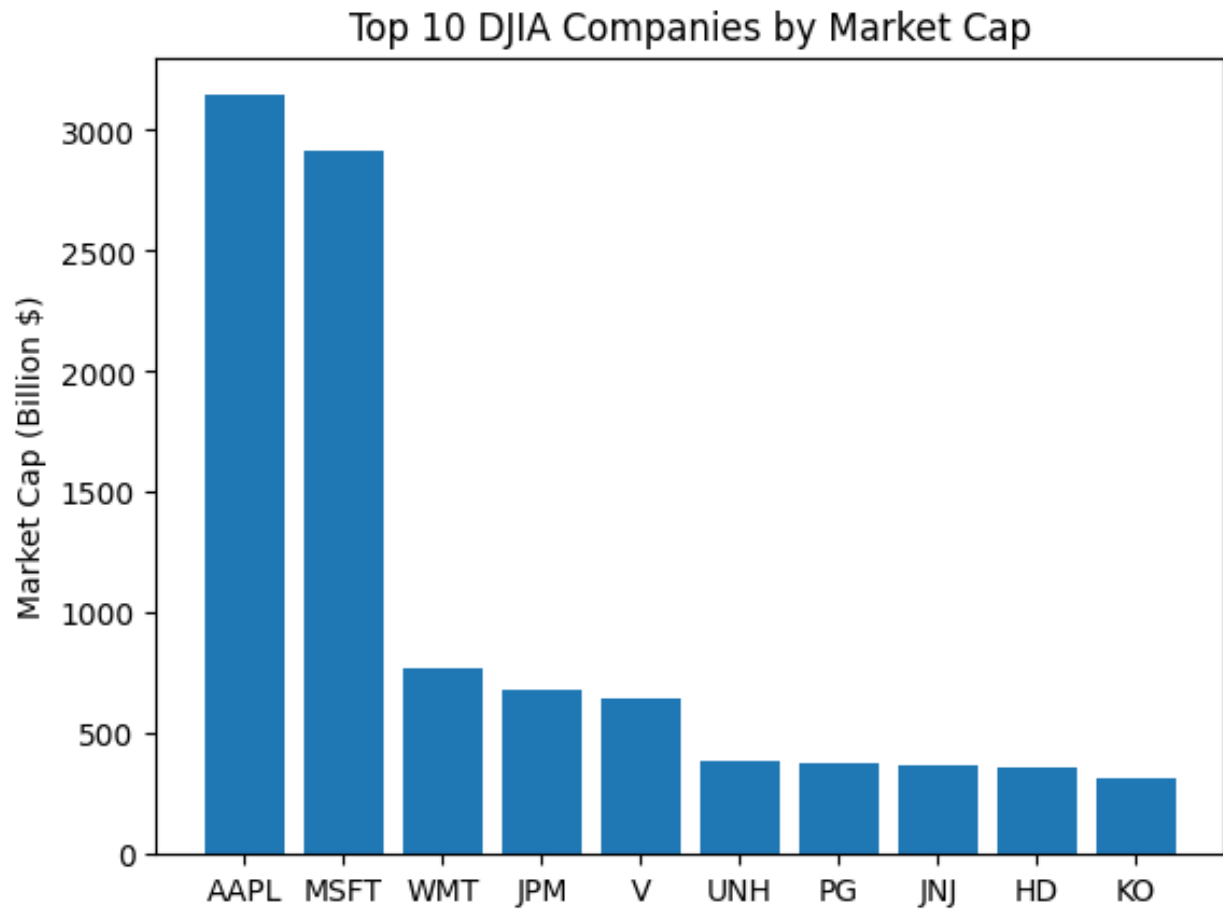




105. Create a scatter plot of market capitalization versus P/E ratio for all DJIA companies as of April 26, 2025.

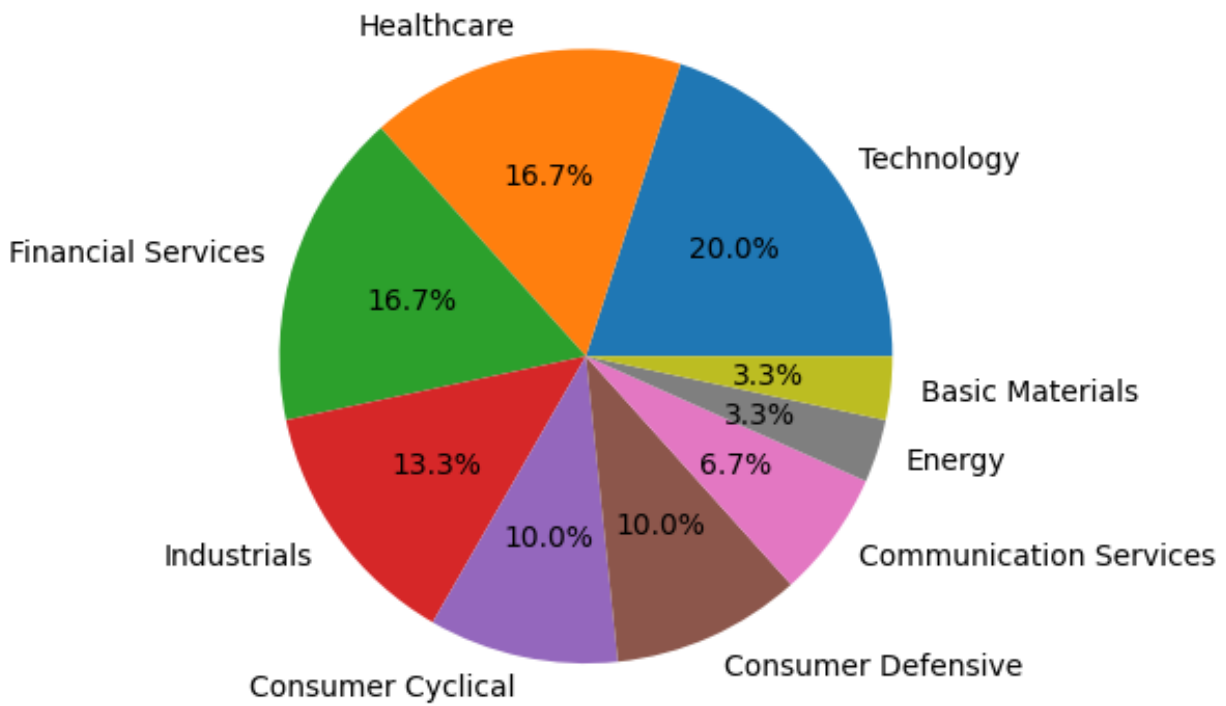


106. Create a bar chart of the top 10 companies by market capitalization as of April 26, 2025.

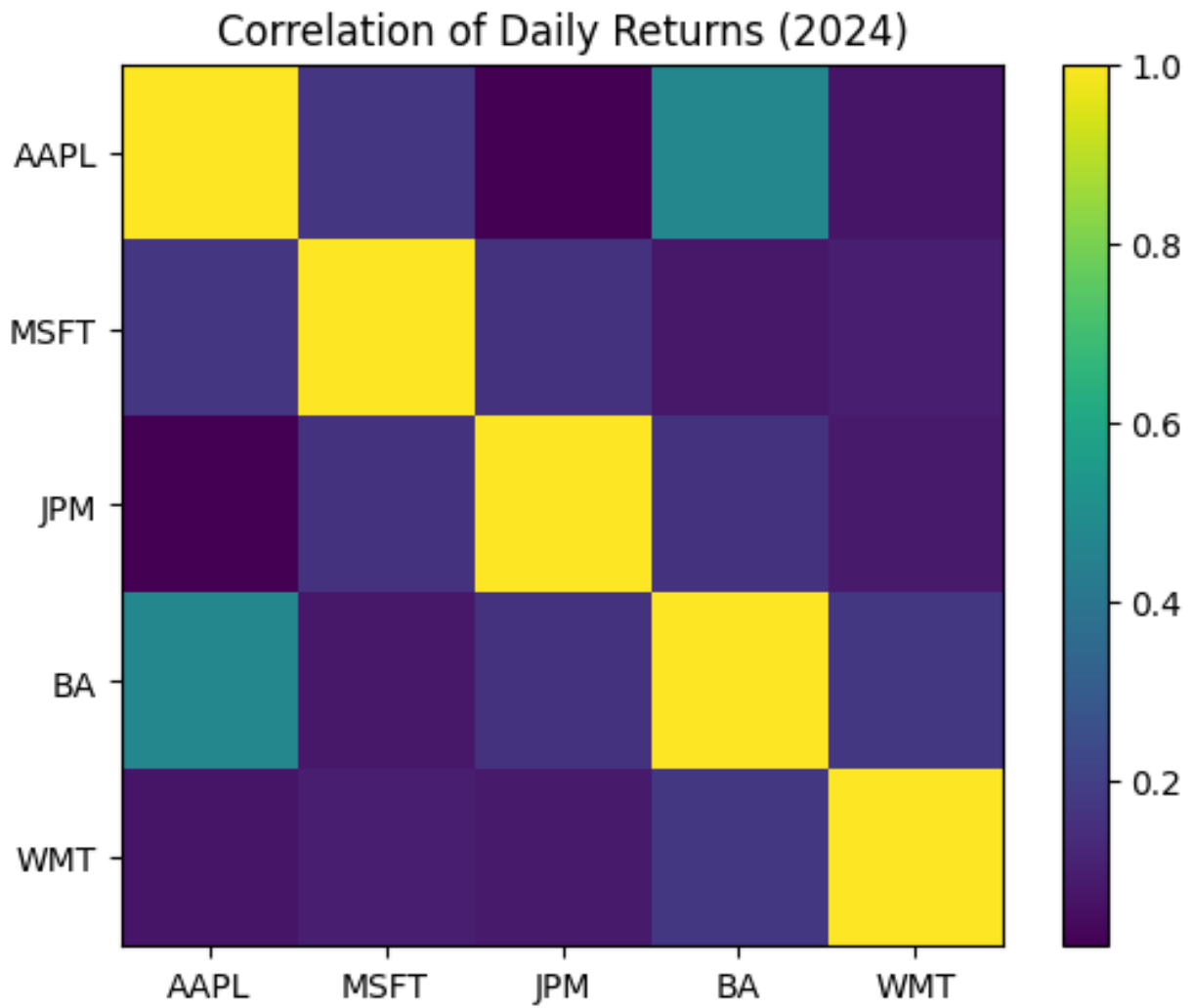


107. Create a pie chart showing the distribution of DJIA companies by sector.

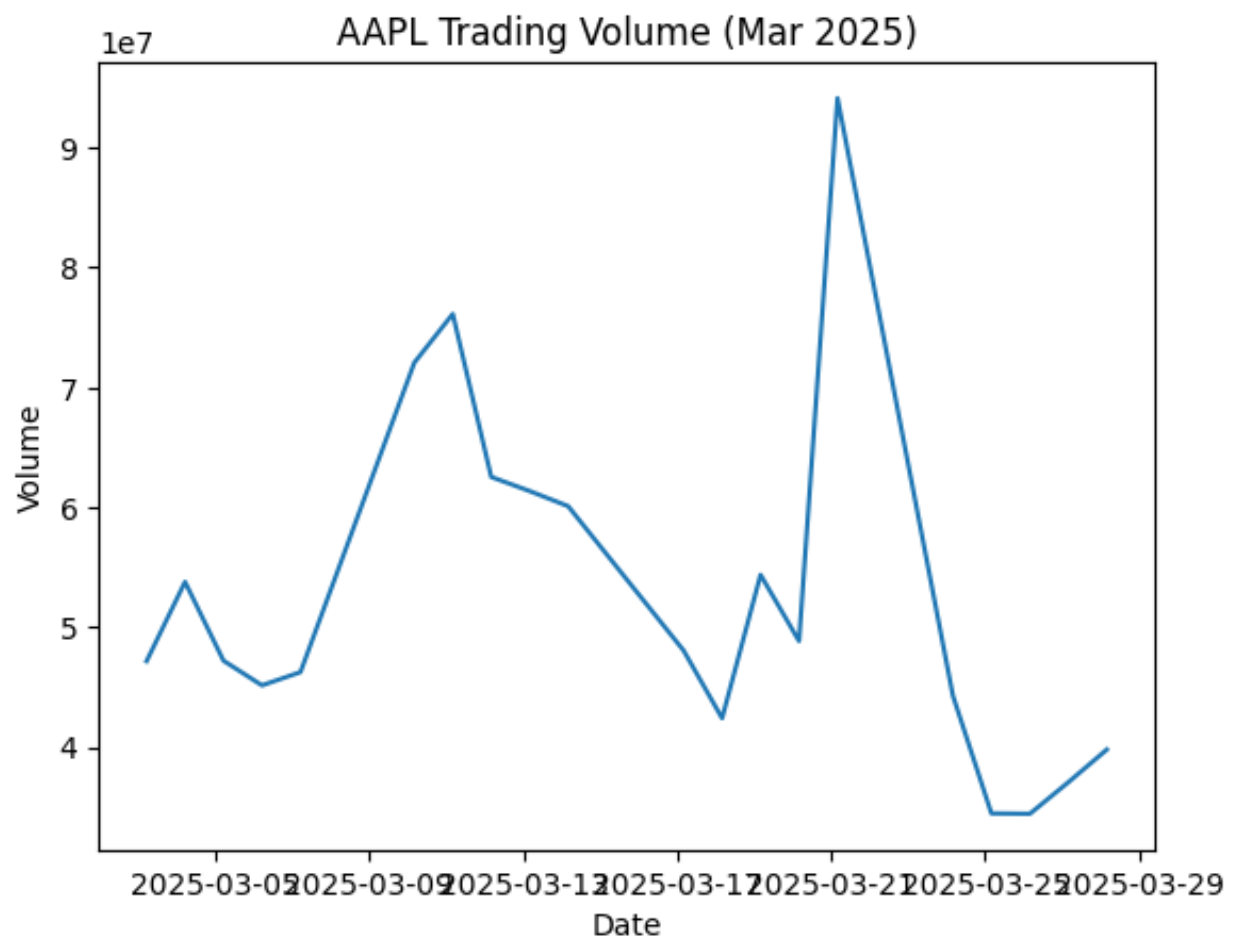
Distribution of DJIA Companies by Sector



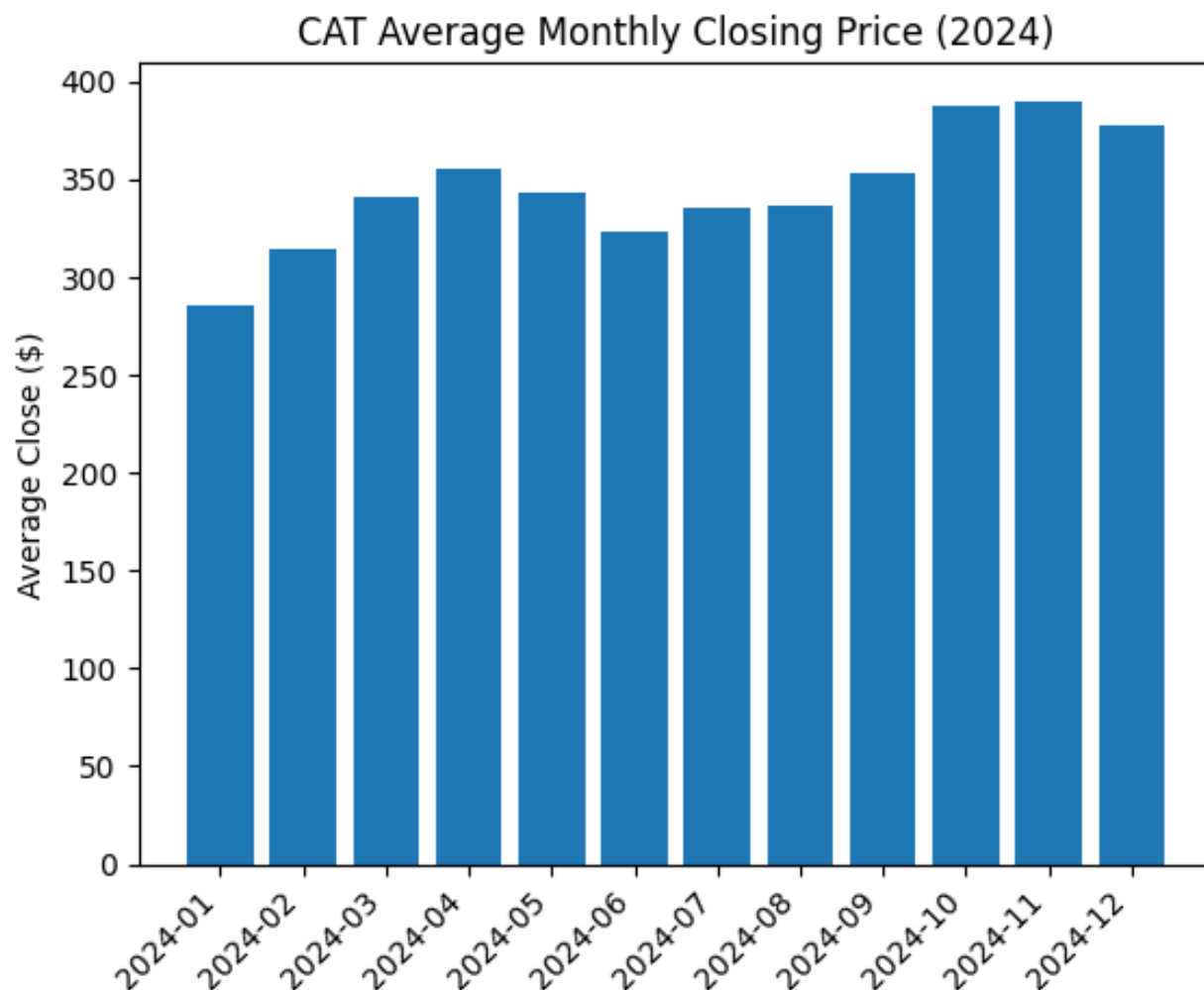
108. Plot a heatmap of the correlation matrix of daily returns in 2024 for AAPL, MSFT, JPM, BA, and WMT.



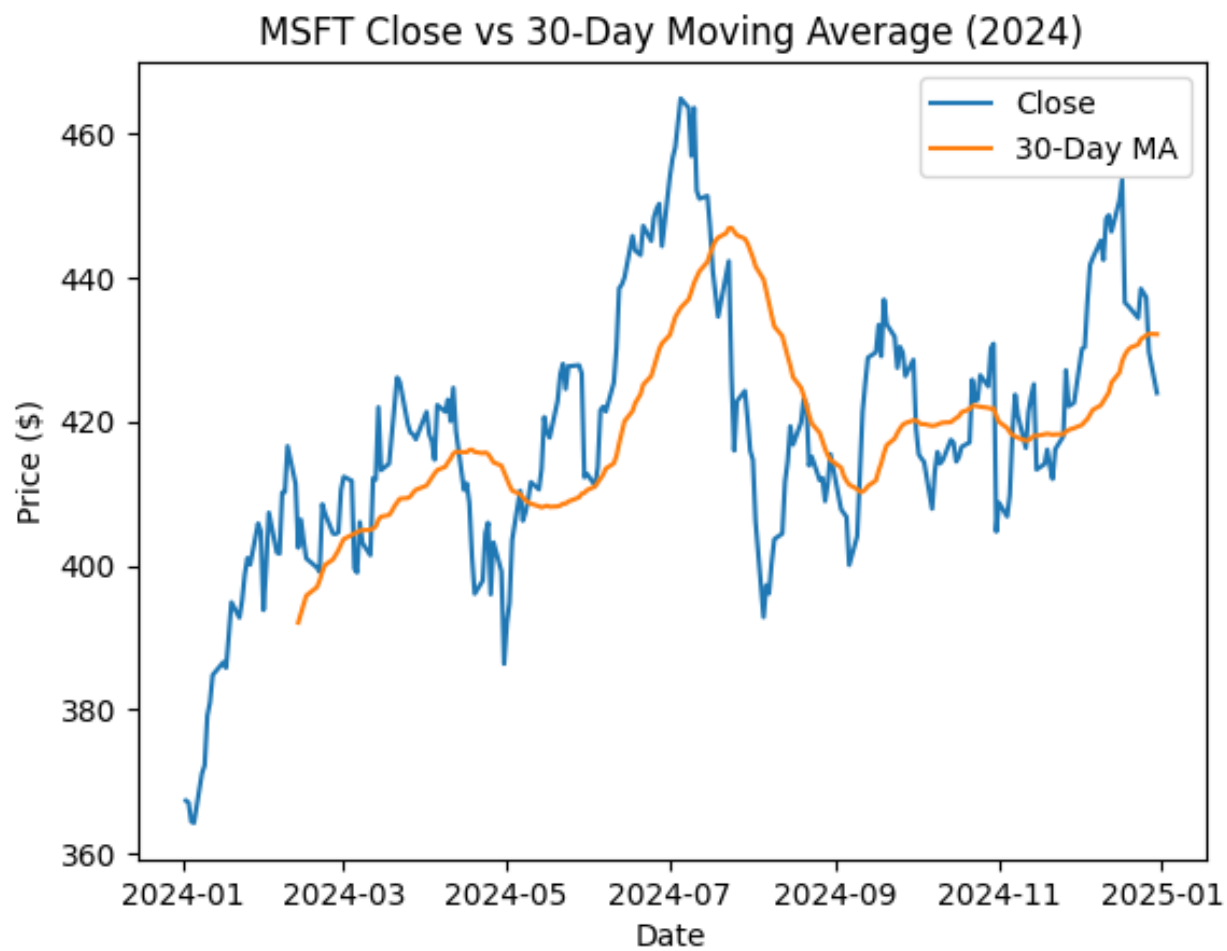
109. Plot the daily trading volume of Apple (AAPL) for March 2025.



110. Create a bar chart of Caterpillar (CAT) average monthly closing price in 2024.

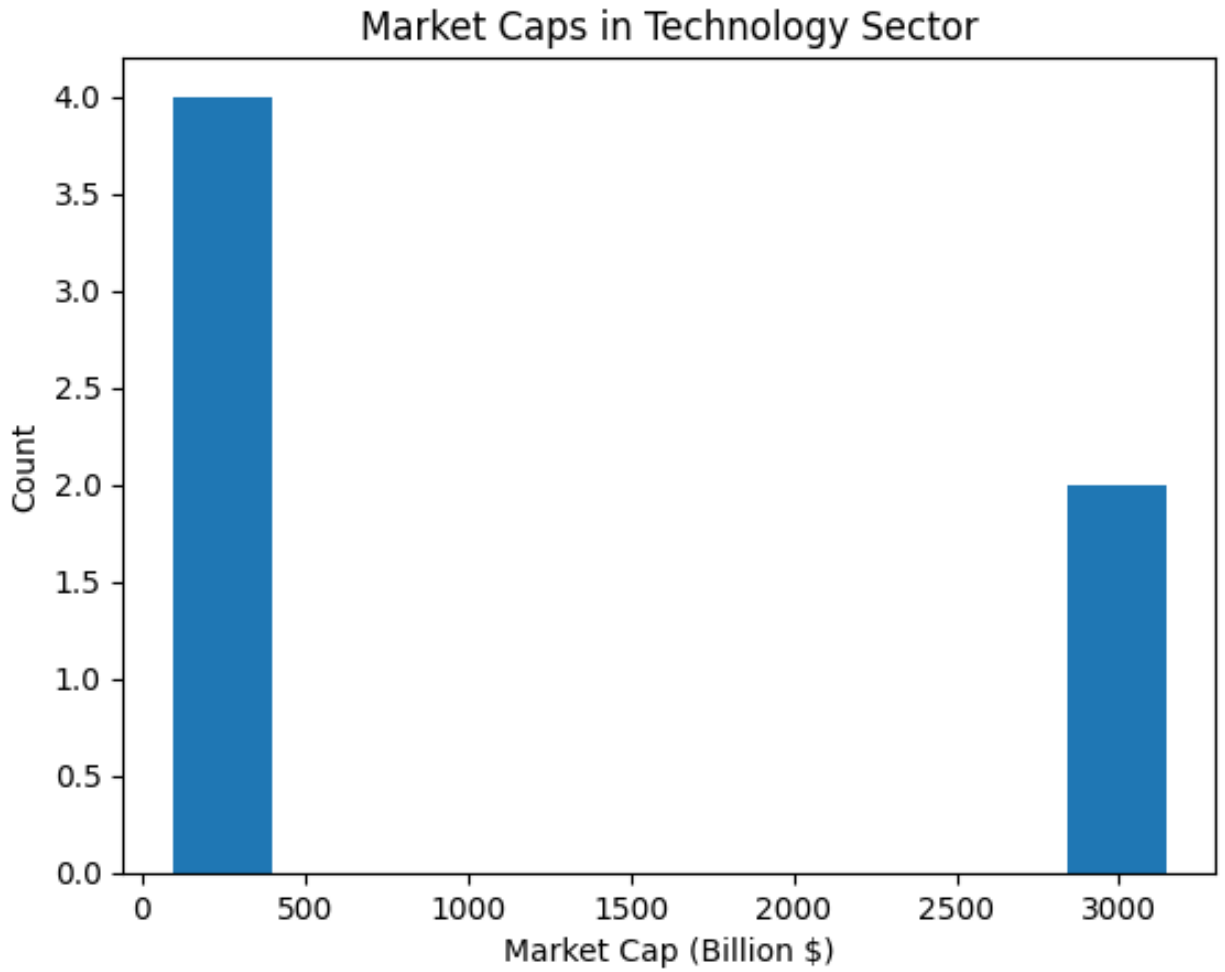


111. Plot Microsoft (MSFT) daily closing price and its 30-day rolling average during 2024.

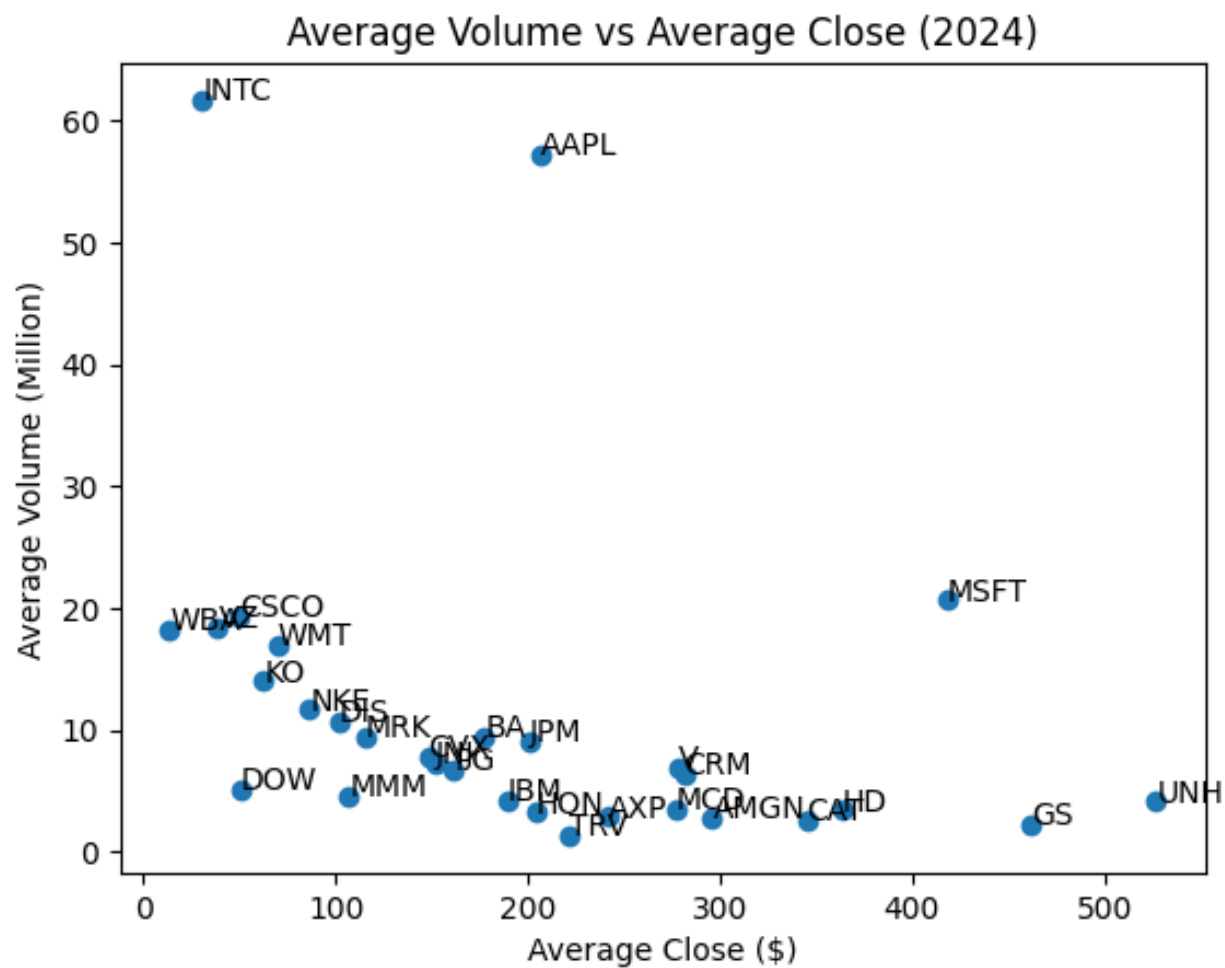


112. Plot a histogram of market capitalizations in the Technology sector.

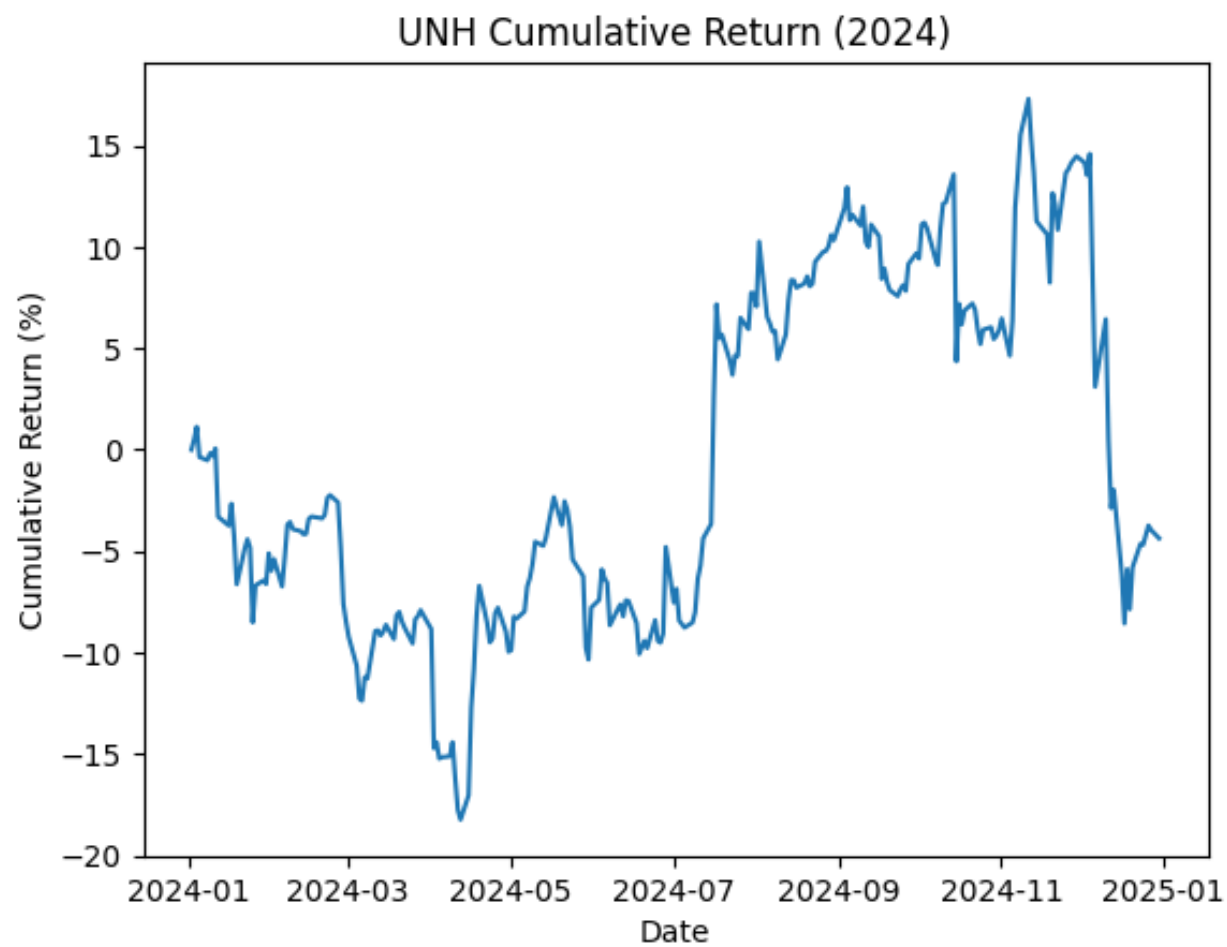




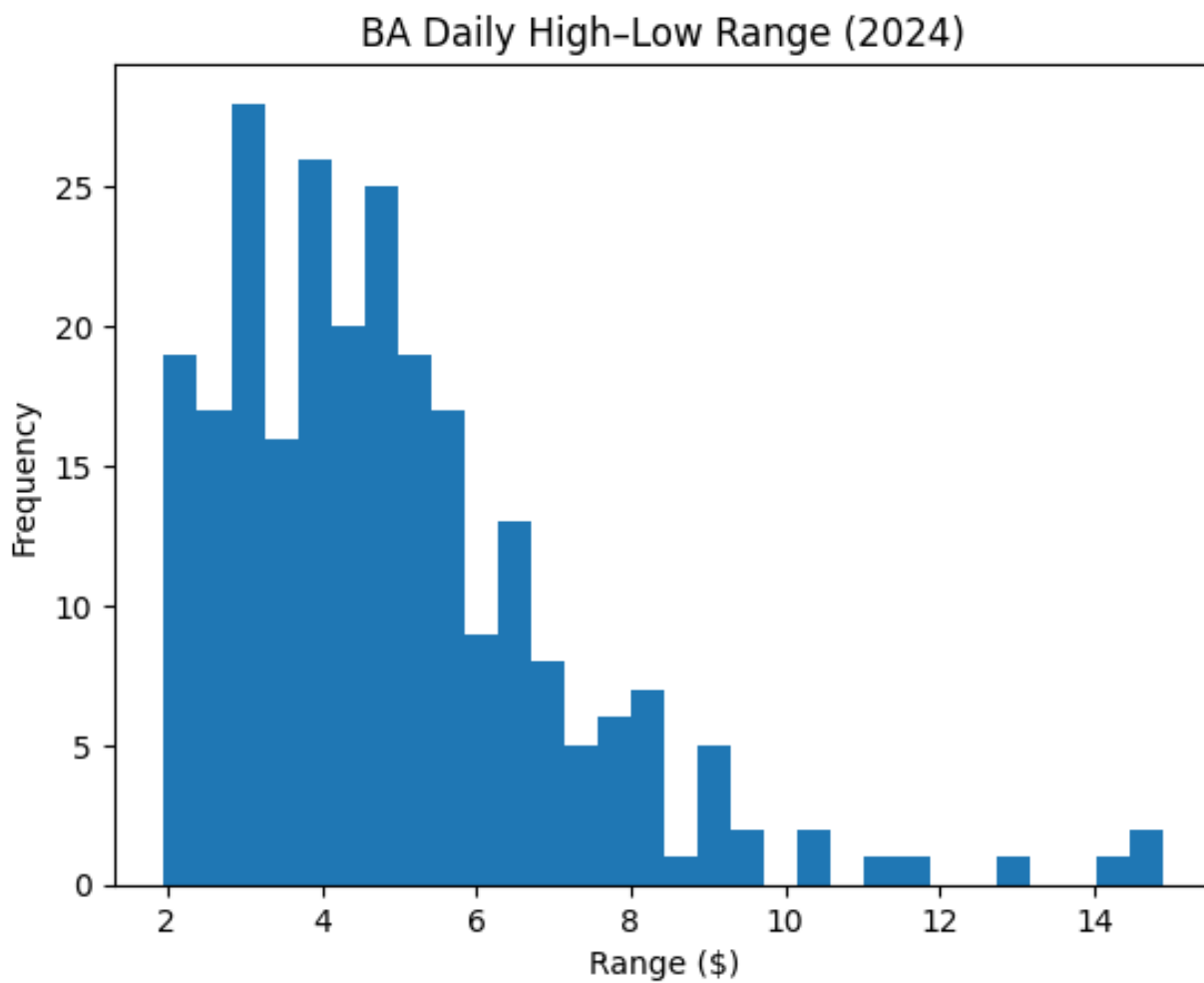
113. Create a scatter plot of average daily volume versus average closing price for each DJIA company in 2024.



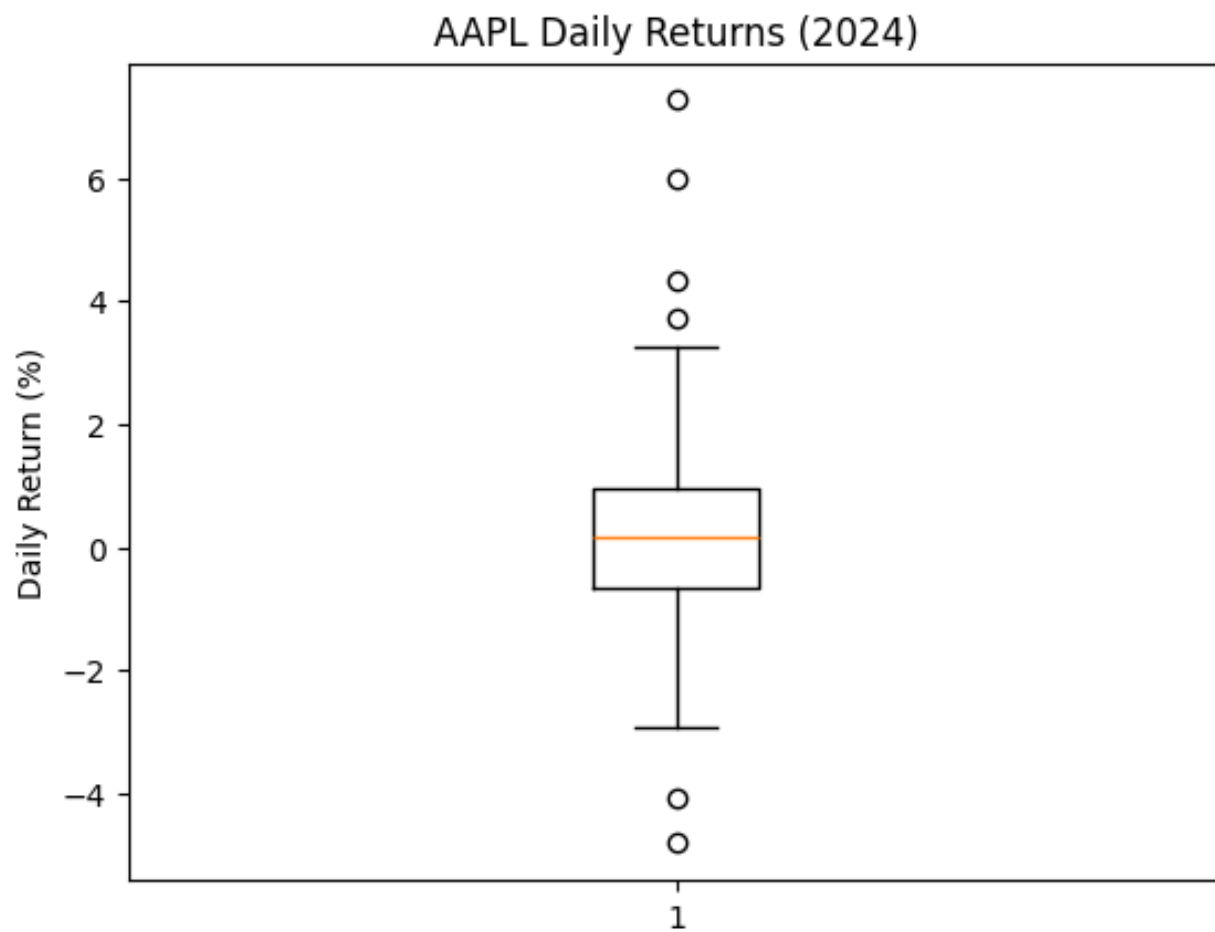
114. Plot the cumulative return of UnitedHealth Group (UNH) during 2024.



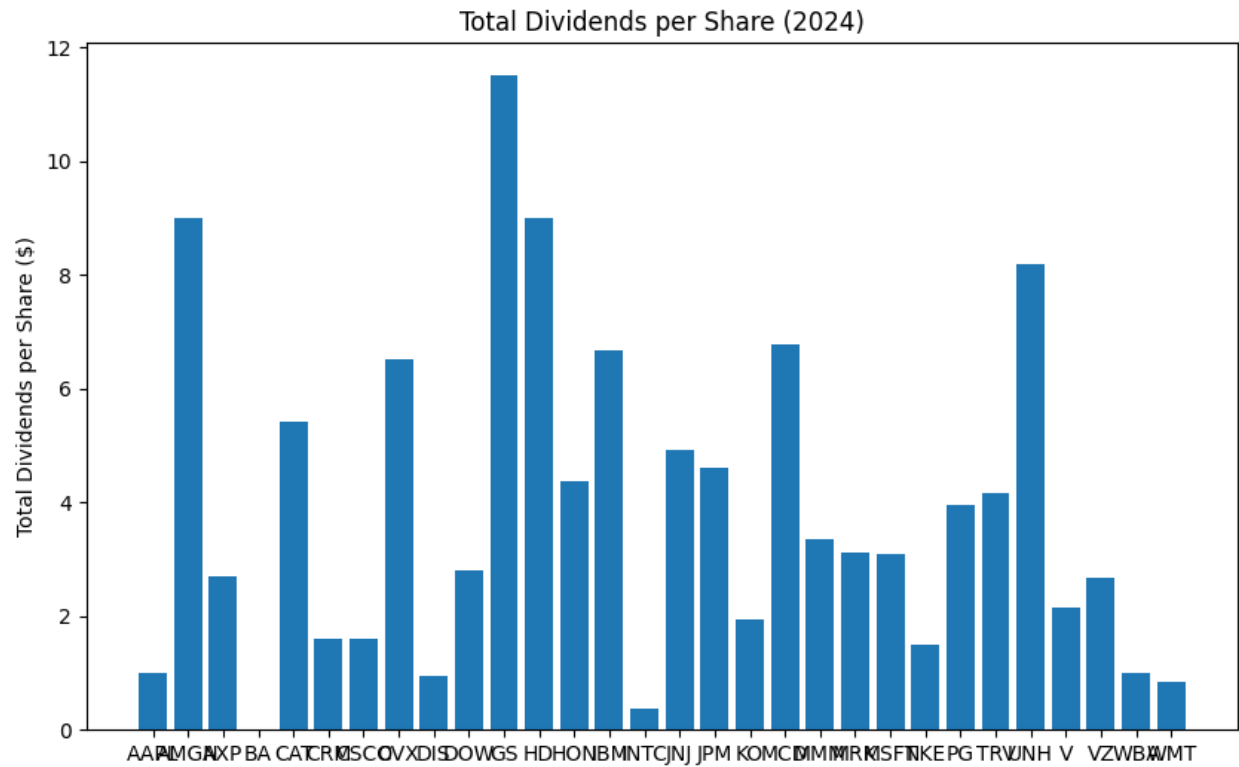
115. Plot a histogram of the daily high–low range for Boeing (BA) in 2024.



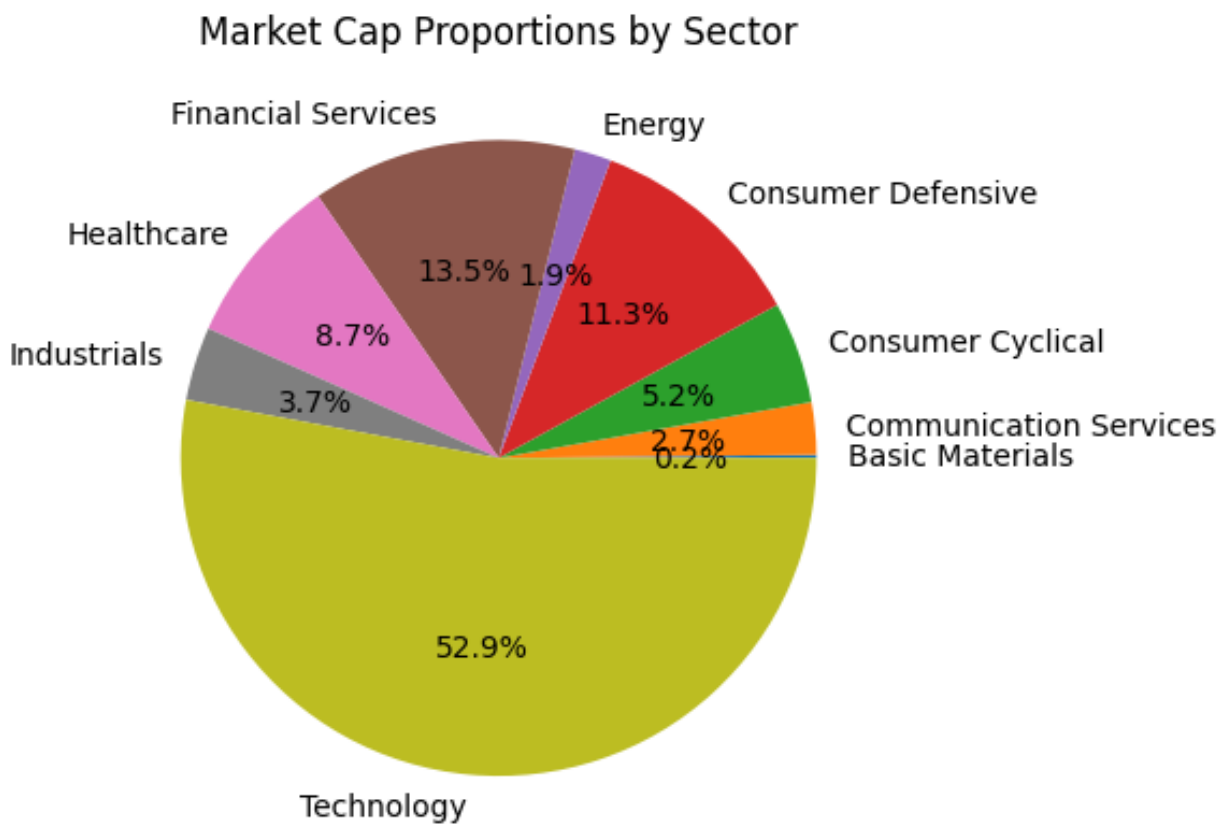
116. Create a boxplot of daily returns for Apple (AAPL) in 2024.



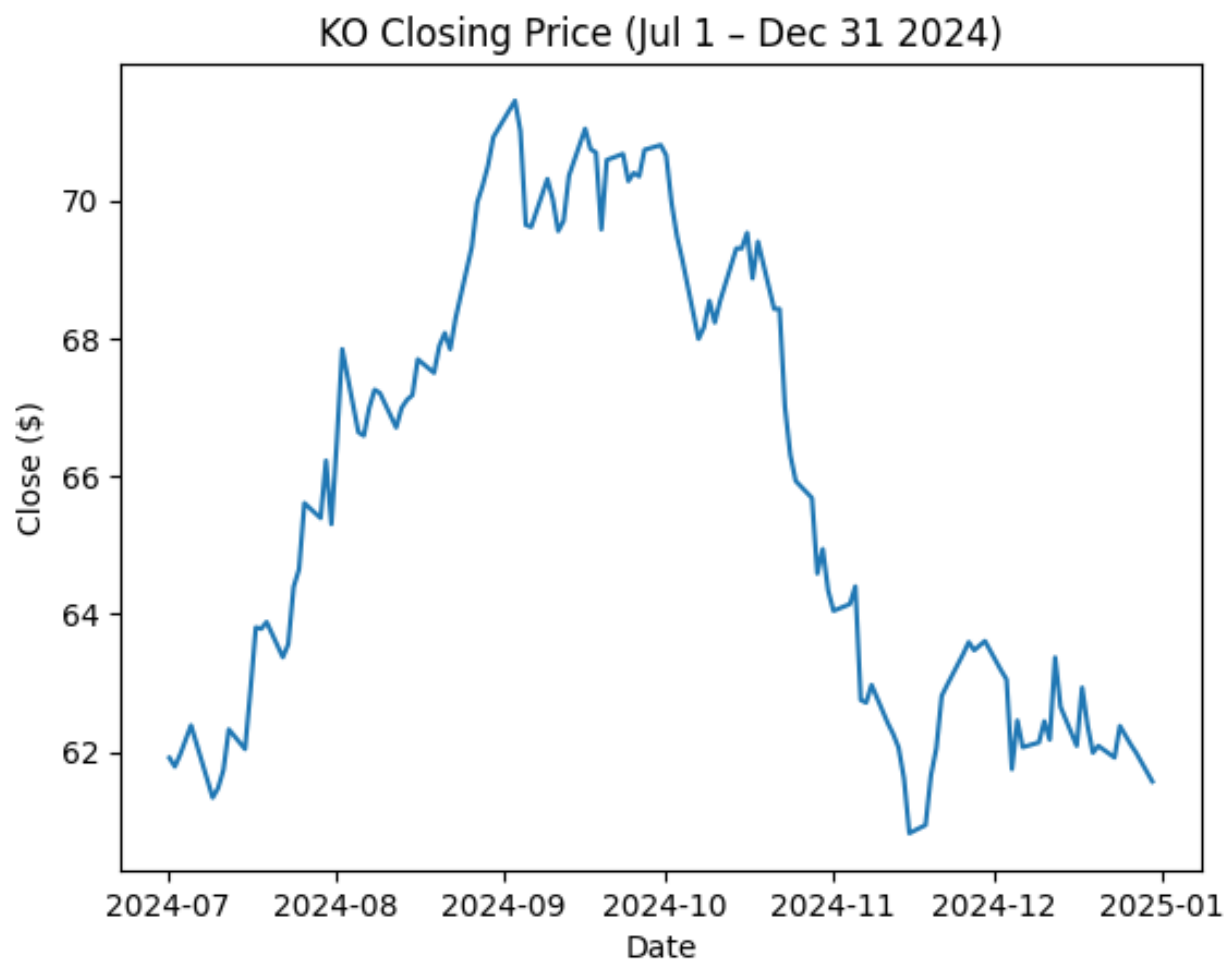
117. Create a bar chart of total dividends per share paid by each DJIA company in 2024.



118. Create a pie chart of market capitalization proportions by sector as of April 26, 2025.



119. Plot the time series of Coca-Cola (KO) closing price from July 1, 2024 to December 31, 2024.



120. Create a boxplot of market capitalization values grouped by sector.



