Download data on a company's stock history. From this data, create scatterplots, histograms, and calculate the mean, median, mode, and standard deviation of some data points. Write a 3-5-page report including the graphs and descriptive statistics you have created.

In addition to graphical and tabular summary methods, numeric or *quantitative*variables and data can be summarized numerically using various techniques of description and display.

*Descriptive methods*, which describe existing data, are also methods for using a subset of the available data to estimate or test a theory about a measurement on a larger group. This larger group is called the *population*, and the measurement being studied is the *parameter*. The smaller group, or subset, of the population that is taken in order to make an inference (to make an estimate or test a theory) is referred to as the *sample.* The measurement taken on that sample is then referred to as the *statistic*, which is usually the best single-number estimate for the population parameter of interest. Most often, however, the estimate should not be restricted to a single number that would be exactly correct or incorrect. Instead, it is preferable to calculate some range of possible values between which there can be a certain percent confidence that the true population parameter falls. These are referred to as *confidence intervals.*

You are an analyst in a publicly traded company. Your supervisor has asked you to create graphical representations from raw stock data for a company-wide meeting at the end of the quarter.

Role

Your task is to analyze the stock history of the company and create a scatterplot and a histogram. Then you will calculate mean, median, mode, and standard deviation of the adjusted daily closing stock price and the stock volume.

It is your responsibility to turn that data into meaningful information using descriptive statistics.

Instructions

* Select a business of which you are a part or in which you have interest and download the raw data on the company’s stock history. Any business that has practical meaning for you is appropriate for this assessment.
* Follow these steps to locate and download stock history from Yahoo! Finance:
  1. Go to [Yahoo Finance](https://finance.yahoo.com/).
  2. Search for and find the stock of the company you have chosen.
  3. Click on the “Historical Data” tab. Then select the following settings above the table:
     + Select Time Period of one year.
     + Select “Historical Prices.”
     + Select Frequency as “Daily.”
  4. Click Apply.
  5. Click on “Download Data.” Go to the bottom of your screen or your Downloads folder to open the Excel file you just downloaded. Open the Excel file. Check to be sure that you have enough lines to show the whole year. If not, reset the settings at the top of the Historical Data chart and try again.
  6. Once you are sure that you have a year’s worth of data, save the Excel file.
* Using the Excel file with the year’s stock data, conduct descriptive analysis as follows:
  1. Create a scatterplot of the highest stock price (in the column labeled “High”) against time. Write a sentence explaining the process by which you created this graph.
  2. Create a scatterplot of the lowest stock price (in the column labeled “Low”) against time. Write a sentence explaining the process by which you created this graph.
  3. Create a histogram of the adjusted daily closing stock price (in the column labeled “Adj Close”). Make sure the histogram is meaningful by adjusting the bin size so you can see the shape of the histogram. Write a sentence explaining the process by which you created this graph.
  4. Create a histogram of the stock trading volume (in the column labeled “Volume”). Make sure the histogram is meaningful by adjusting the bin size so you can see the shape of the histogram. Write a sentence explaining the process by which you created this graph.
  5. Calculate the mean, median, mode, and standard deviation of the adjusted daily closing stock price. Write a sentence explaining the process by which you calculated these statistics.
  6. Calculate the mean, median, mode, and standard deviation of the stock volume. Write a sentence explaining the process by which you calculated these statistics.
* Prepare a report that you would present to your supervisor, including the following:
  1. An APA-formatted title page.
  2. A one-page introduction of your chosen company, including the company background and practical business context.
  3. A section headed Graphical Representations of Data, in which you include the four graphs you created above and a summary of the processes by which you created each graph.
  4. A section headed Descriptive Statistics, in which you include the statistics you calculated above and and a summary of the procedures you followed to calculate the statistics.
  5. APA-formatted in-text citations and a corresponding references page. Remember to cite the source of your financial data.