survey and data analysis project

The statistics project gives you a chance to apply many of the statistical methods learned in this course to a problem that interests you. This project will also familiarize you with how to use Excel to display your statistical analysis. The project is 15% of your grade. Step 1: Data Collection and Data Entry (30 points): You may obtain data from the internet, or conduct a survey of your own. If you are conducting a survey of your own, you may ask people for responses via your social media. Due to the current Covid-19 situation, please do not collect data in person. You will need data of sample size 30 or more which answers 2 questions that provide quantitative data. Example Questions: Quantitative Question 1: How many Facebook friends do you have? Quantitative Question 2: On average, how many times a day do you check your Facebook newsfeed? Another Example: Quantitative Variable 1: A person’s shoe size (to the half size) Quantitative Variable 2: A person’s height in inches If you are getting data from the internet, site the source. If you are collecting data, specify the method you used for collection. Enter your data into an Excel spreadsheet. To receive the 30 points for this part of the project, you need to: Define the 2 quantitative variables you are collecting data on State the source of your data Include your reason for selecting these variables. Provide the Excel spreadsheet that contains the actual data values Checkpoint: When you have your questions or variables selected, email me what they are for approval. Also, when you have your data, you may send the data to me before starting your analysis so that I can confirm you shouldn’t have any issues analyzing the data. Step 2: Data Analysis for each quantitative variable. For each variable, you will analyze the data by providing graphs and descriptive statistics using Excel. Videos will be provided on how to use Excel for data analysis. Quantitative Variable 1: (25 points)1. For graphs, provide a histogram and a boxplot from Excel. 2. Use the graphs to discuss the shape of the distribution and identify any outliers.3. For statistics, describe the data using at least two different measures of center and two different measures of variation, which can be obtained from Excel. 4. Find the five number summary and determine mathematically if there are any outliers. 5. If there are outliers, calculate their z-scores and discuss what the z-score tells about being an outlier. Quantitative Variable 2: (25 points) 1. For graphs, provide a histogram and a boxplot from Excel. 2. Use the graphs to discuss the shape of the distribution and identify any outliers.3. For statistics, describe the data using at least two different measures of center and two different measures of variation, which can be obtained from Excel. 4. Find the five number summary and determine mathematically if there are any outliers. 5. If there are outliers, calculate their z-scores and discuss what the z-score tells about being an outlier. Step 3: Correlation and Regression (20 points) (Use Excel) For the two quantitative variables:1. Give a rationale for choosing one of them to be x and the other y. 2. Provide a scatter plot of the paired data. 3. Calculate the correlation coefficient r, and discuss what the value tells about the strength and direction of any correlation. 4. Provide the regression equation obtained from the data. Is the regression line a good predictor of the y variable given the x variable?