Week 1 Data Science Task: Descriptive Statistics Analysis

Instructions: Please answer the following questions based on the provided dataset. You will need to download the dataset, perform the requested statistical analysis, and then provide your answers and interpretations.

Dataset

For this task, you will use a simple dataset representing the daily sales (in USD) of a small online store over a period of 15 days.

Dataset: `[120, 150, 130, 180, 110, 200, 140, 160, 170, 190, 210, 135, 155, 175, 165]`

Questions

1. **Calculate the Mean:** What is the average daily sales for this period? Show your calculation steps.

2. **Determine the Median:** What is the median daily sales? Explain how you found it, especially if the dataset had an even number of observations.

3. **Calculate the Standard Deviation:** What is the standard deviation of the daily sales? Assume this is a sample of sales data. Show your calculation steps and interpret what the standard deviation tells you about the sales data.

4. **Identify Outliers (Conceptual):** If there was a day with sales of $500, how would that affect the mean and median? Which measure would be more robust to this outlier, and why?

5. **Data Type Classification:** Classify the 'daily sales' data as either qualitative or quantitative, and further specify if it's discrete or continuous. Justify your answer.

6. **Reporting and Interpretation:** Based on your calculations, write a short report (100-150 words) summarizing the sales performance of the online store. Include the calculated mean, median, and standard deviation, and discuss what these statistics imply about the store's sales consistency and typical performance.

Submission

Please provide your answers to the questions above. For calculations, you can write them out or upload a screenshot of your work (e.g., from a spreadsheet or Python script). For the report, type it directly into the provided text box.