📝 Assignment: Data Visualization with Matplotlib

Dataset: Use the provided sales dataset (`Invoice ID`, `City`, `CustomerType`, `Gender`, `Product`, `ItemPrice`, `Quantity`, `Total`, `Date`, `Time`, `Payment`, `CustomerSalary`, `Rating`).

Part A: Line Chart

1. Plot a **line graph** showing **average customer ratings per month**.

   - X-axis: Months (Jan–Dec)

   - Y-axis: Average rating

   - Add markers and gridlines.

📌 *Hint*: Use `groupby("month")["rating"].mean()`

Part B: Bar Chart

2. Create a **bar chart** of **total sales by payment method**.

   - X-axis: Payment types (Cash, MPESA, Credit Card)

   - Y-axis: Total Sales

   - Use different colors for each bar.

📌 *Hint*: Use `df.groupby("payment")["total"].sum()`

Part C: Histogram

3. Draw a histogram showing the **distribution of product unit prices (`itemprice`)**.

   - Use **10 bins**.

   - Customize color and add labels.

📌 *Hint*: Use `plt.hist(df["itemprice"], bins=10)`

Part D: Reflection

4. Answer in **3–5 sentences**:

   - Which chart type (line, bar, histogram) is most useful for analyzing **sales trends**?

   - Which is best for **customer demographics**? Why?