**Section 1: Data Cleaning & Preparation (Excel & Google Sheets)**

1. There are some inconsistencies in the dataset’s Shipment Date format. Identify the inconsistencies, standardize the format, and show the before-and-after results.
2. The Warehouse Capacity (KG) column has some incorrect values due to manual entry errors. Write formulas in Excel or Google Sheets to detect and correct these anomalies based on Order Volume (KG).
3. Some Customer Rating values are missing. Use logical imputation techniques (e.g., median, mode, or weighted average based on Customer Type) to fill in the missing values and explain your approach.
4. Identify **duplicate records** based on Order ID and remove them while preserving the latest entry. Provide both original and cleaned data snapshots.

**Section 2: Data Analysis & Insights (Excel & Google Sheets)**

1. Calculate the **average delay due to peak season** for each Customer Type. Present the data using a pivot table.
2. Determine the **top 3 customer types** that generate the highest total Profitability ($). Explain your calculation.
3. Calculate the **overall profitability margin (%)** using the formula: \text{Profitability Margin} = \left( \frac{\text{Profitability ($)}}{\text{Revenue per Shipment ($)}} \right) \times 100 Find which Customer Type has the **highest and lowest** profitability margin.
4. Find the **total cost, revenue, and profitability** for Peak Season Orders vs. Non-Peak Season Orders. Show the comparison using a bar chart.

**Section 3: Dashboard & Visualization (Tableau or Power BI)**

1. Create a **dashboard** showing:
   * Total shipments by Customer Type
   * Average Transit Time (Days) by Priority
   * The number of Delayed Shipments over time (trend analysis)
2. Identify the **top 5 warehouses with the highest Extra Shifts Required** and present this as an interactive bar chart.
3. Build a **heatmap** that visualizes Delay Due to Peak (Hours) across different Customer Types and Priorities. Interpret the insights derived from this visualization.
4. Using a **calculated field in Tableau/Power BI**, segment On-time Delivery performance into:

* **Excellent (95% or above)**
* **Good (85%-94%)**
* **Needs Improvement (Below 85%)**
* Show this segmentation using a pie chart or bar chart.

**Section 4: Problem-Solving & Decision Making**

1. Based on your analysis, suggest **three strategic actions** to reduce peak season delays.
2. If the company wants to **increase profitability by 10%**, recommend changes in cost, revenue, or processing strategies using data insights.
3. Identify **a correlation between Transit Time (Days) and Customer Rating** using a scatter plot in Tableau/Power BI. Interpret whether longer transit times impact customer ratings.