SECTION A – Mandatory Power Query Instructions

1. **Remove Null Rows**

Removed rows with null values in key fields like State and state name.

2. **Split Column by Delimiter**

Split the Company column by the comma (,) delimiter into:
➤ Company Name and Company Type

3. **Rename the Table**

Renamed the main query to consumer_complaints.

4. **Replace Values**

Replaced Yes/No in relevant columns (e.g., Timely response?, Consumer disputed?) with meaningful alternatives like Responded/Not Responded.

5. **Merge Columns with Separator**

Merged Product and Issue into a single column with a hyphen separator -.
➤ Final column name: Product - Issue

6. **Add Prefix and Suffix**

Added prefix Complaint: to Issue, and suffix - Case to ID.

7. **Text Case Transformations**

Applied proper casing to Company Name and state name (e.g., Capitalize Each Word).

8. **Extract Using Transform Option**

Extracted the first 3 characters from Submitted via.

9. **Extract Using Add Column (from Delimiter)**

Extracted Month and Day from date received using delimiters.

10. **Add Custom Index Column**

Added an index column starting from 1001.

11. **Conditional Column**

Created Resolution Time Response column:

- 0 → "Instant"

- 1–3 → "Fast"

- 3 → "Delayed"

12. **Calculate Complaint Duration in Hours**

Subtracted date received from date resolved, and converted the duration to hours.
➤ Column: Resolution Time (Hours)

13. **Duplicate a Column**

Duplicated columns like Product and Company Name.

14. **Sort**

Sorted the table by Year, then by Resolution time (in days) (both ascending).

SECTION B – Smart Extra Instructions

1. **Trim and Replace Nulls in Company Type**

Trimmed whitespace and replaced any nulls with "NA".

2. **Remove Redundant Columns**

Removed duplicate columns like Date received.1 and Date resolved.1.

3. **Group By Company**

Duplicated the query as Complaints_By_Company and grouped by Company Name to calculate Complaints Count.

SECTION C – Data Visualizations (Final Chart List)

All visuals were designed to be **simple**, **meaningful**, and **interactive**, with no use of DAX.

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1. Clustered Bar Chart – Complaints by Product

Shows total number of complaints for each Product
➤ Axis: Product
➤ Values: Count of Complaint ID

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2. Line Chart – Complaints Over Time

Displays complaint trends over time based on date received

➤ Axis: date received (month/year)

➤ Values: Count of Complaint ID

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3. Donut Ring Chart – Complaint Submission Channels

Shows how complaints were submitted by users

➤ Legend: Submitted via

➤ Values: Count of Complaint ID

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4. Treemap – Complaints by State

Displays complaint volume by state name

➤ Group: state name

➤ Values: Count of Complaint ID

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5. Map – Geographic View by State and Company Type

Maps complaint volume across states with Company Type as color segmentation

➤ Location: state name

➤ Values: Count of Complaint ID

➤ Legend: Company Type

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6. Table – Full Complaint Details

Tabular view showing key fields like:

➤ Complaint ID, Product, Issue, date received, date resolved, State, Submitted via, Resolution Time Response

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7. Matrix – Product vs State

Cross-tab of Product against State

➤ Rows: Product

➤ Columns: State

➤ Values: Count of Complaint ID

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8. Pie Charts – Timely Response & Customer Disputes

Two separate pie charts to visualize:

- Distribution of Timely response?

- Distribution of Consumer disputed?
  ➤ Values: Count of Complaint ID
  ➤ Legend: Corresponding column

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9. Slicers

Used to filter visuals by:

- Year

- Submitted via

- *(TreeMap only)* Company Name

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10. Clustered Column Chart – Complaint Volume by Company with Slicer

Based on Complaints_By_Company table
➤ Axis: Company Name
➤ Values: Sum of Complaints Count
➤ Filter: Only shows companies with **more than 50 complaints**
➤ Slicer: Added on Complaints Count for dynamic filtering