**STEP 1: Clean and Prepare the Dataset**

**Tool: Power BI Power Query**

**Task 1: Clean “Bag Weight”**

1. Open the CSV in Excel
2. Column: Bag Weight (e.g., “35 kg”)
   * Use Find & Replace: Replace kg with nothing
   * Format the column as Number

**Task 2: Clean “Altitude”**

* Values like "1700-1930" or "1200"
* You want two columns: Altitude\_Min, Altitude\_Max

**Power BI:**

1. Go to Transform Data
2. Right-click column → **Split by Delimiter** → Choose “-”
3. Rename to Altitude\_Min, Altitude\_Max

**Task 3: Convert Dates**

* Columns: Grading Date, Expiration

1. In Excel: Change column format to Date
2. In Power BI:
   * Select column
   * In ribbon, choose Data Type → Date

**Task 4: Handle Missing Values**

Columns like Variety, Processing Method, Region might be missing.

In Power BI:

* Open Power Query (Transform Data)
* Right-click column → choose Replace Errors or Fill Down
* Or filter out null rows using the filter arrow

**Task 5: Add Total Defects Column**

In Power BI:

1. Go to Modeling tab
2. Click New Column

DAX Code :

Total\_Defects = 'Table'[Category One Defects] + 'Table'[Category Two Defects]

**Import the Data into Power BI**

1. Open Power BI Desktop
2. Click Home → Get Data → Text/CSV
3. Select your cleaned CSV file
4. Click Load
5. Click Transform Data to inspect and clean further if needed

**1.What are the key determinants of coffee quality as evaluated through sensory attributes such as aroma, flavor, acidity, etc.?**

**Create Visuals for Research Questions**

**RQ1: Key Sensory Determinants**

**Visual 1: Bar Chart of Sensory Scores**

1. Visual: Clustered Bar Chart
2. Axis: Aroma, Flavor, Acidity, etc.
3. Values: Average of each field

**Visual 2: Key Influencers**

1. Add Key Influencer Visual
2. Analyze field: Total Cup Points
3. Add sensory fields as inputs

A screenshot of a computer

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**2.Is there a correlation between processing methods, origin regions, and coffee quality scores?**

**RQ2: Processing Methods and Regions**

**Visual 1: Filled Map**

1. Add Map visual
2. Location: Country of Origin
3. Value: Average of Total Cup Points

**Visual 2: Matrix**

* Rows: Processing Method
* Columns: Country
* Values: Total Cup Points (Average)

**Slicers:**

* Add Slicer Visuals for:
  + Processing Method
  + Harvest Year

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**3.Can we identify any trends or patterns in defect occurrences and their impact on overall coffee quality?**

**RQ3: Defects and Cup Score**

**Visual 1: Scatter Plot**

* X: Total\_Defects
* Y: Total Cup Points

**Visual 2: Bar Chart**

* Axis: Category One Defects
* Value: Average Total Cup Points

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**4.How do different variables interact to influence the Total Cup Points, which represent an overall measure of coffee quality?**

**RQ4: Interactions with Total Cup Points**

**Visual 1: Decomposition Tree**

* Analyze: Total Cup Points
* Explain by: Aroma, Region, Sweetness, etc.

**Visual 2: What-If Parameters**

1. Go to **Modeling → New Parameter**
2. Name: "Aroma Score Slider", range 6 to 10
3. Create Measure:

DAX Code :

Simulated\_Score =[Aroma Score Slider Value] +[Acidity Score Slider Value] +[Flavor Score Slider Value]

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