**PS – 23: Tableau Guide for Retail Dataset Analysis**

This guide provides step-by-step instructions for using Tableau Public to perform data visualization operations on the "Online Retail.xlsx" dataset. It is designed for complete beginners, with detailed explanations for each step to answer the following business questions: a. Find and plot country-wise popular product b. Find and plot bottom 10 products based on total sales c. Find and plot top 5 purchase orders d. Find and plot most popular products based on sales e. Find and plot half-yearly sales for the year 2011

**Prerequisites**

* **Tableau Public**: Download and install from Tableau Public.
* **Dataset**: Save "Online Retail.xlsx" on your computer.
* **Basic Skills**: Familiarity with clicking, dragging, and navigating software.

**Step 1: Load the Dataset into Tableau**

1. **Open Tableau Public**: Launch the application.
2. **Connect to Data**:
   * Under "Connect", click **Microsoft Excel**.
   * Select "Online Retail.xlsx" and click **Open**.
3. **Verify Data**:
   * In the **Data Source** tab, check columns (InvoiceNo, StockCode, Description, etc.).
   * Ensure data types are correct (e.g., InvoiceDate as date, Quantity as number). Change if needed by clicking the data type icon.
4. **Go to Worksheet**: Click **Sheet 1** to start visualizing.

**Step 2: Data Preparation**

1. **Create Total Sales Field**:
   * In the **Data** pane, click the dataset dropdown and select **Create Calculated Field**.
   * Name: Total Sales.
   * Formula: [Quantity] \* [UnitPrice].
   * Click **OK**.
2. **Filter Cancellations**:
   * Drag Quantity to **Filters** shelf.
   * Select **Range of Values**, set minimum to 0, click **OK**.
3. **Ensure Date Format**:
   * Right-click InvoiceDate in **Data** pane, select **Change Data Type > Date** if needed.
4. **Clean Data (Optional)**:
   * Filter out null Description or CustomerID by dragging to **Filters** and selecting **Non-null values**.

**Step 3: Answering Business Questions**

**a. Country-Wise Popular Product**

1. **New Worksheet**: Rename to "Country-Wise Popular Product".
2. **Build Visualization**:
   * Drag Country to **Columns**.
   * Drag Quantity to **Rows**, set to **Sum**.
   * Drag Description to **Detail**.
3. **Filter Top Product**:
   * Drag Description to **Filters**.
   * Select **Top** tab, set **Top 1** by **Sum of Quantity**, click **OK**.
4. **Visualize**:
   * Ensure **Bar** chart type.
   * Drag Description to **Label**.
5. **Format**:
   * Y-axis: Title "Total Quantity Sold".
   * X-axis: Title "Country".
6. **Tooltips**: Ensure Country, Description, SUM(Quantity) in **Tooltip**.

**b. Bottom 10 Products Based on Total Sales**

1. **New Worksheet**: Name "Bottom 10 Products".
2. **Build Visualization**:
   * Drag Description to **Rows**.
   * Drag Total Sales to **Columns**, set to **Sum**.
3. **Filter Bottom 10**:
   * Drag Description to **Filters**.
   * Select **Top** tab, set **Bottom 10** by **Sum of Total Sales**, click **OK**.
4. **Visualize**:
   * Ensure **Bar** chart.
   * Drag Total Sales to **Label**.
5. **Format**:
   * X-axis: Title "Total Sales (£)".
   * Y-axis: Title "Product".
   * Sort ascending.
6. **Tooltips**: Include Description, SUM(Total Sales).

**c. Top 5 Purchase Orders**

1. **New Worksheet**: Name "Top 5 Purchase Orders".
2. **Build Visualization**:
   * Drag InvoiceNo to **Rows**.
   * Drag Total Sales to **Columns**, set to **Sum**.
3. **Filter Top 5**:
   * Drag InvoiceNo to **Filters**.
   * Select **Top** tab, set **Top 5** by **Sum of Total Sales**, click **OK**.
4. **Visualize**:
   * Ensure **Bar** chart.
   * Drag Total Sales to **Label**.
5. **Format**:
   * X-axis: Title "Total Sales (£)".
   * Y-axis: Title "Invoice Number".
   * Sort descending.
6. **Tooltips**: Include InvoiceNo, SUM(Total Sales).

**d. Most Popular Products Based on Sales**

1. **New Worksheet**: Name "Most Popular Products".
2. **Build Visualization**:
   * Drag Description to **Rows**.
   * Drag Total Sales to **Columns**, set to **Sum**.
3. **Filter Top 10**:
   * Drag Description to **Filters**.
   * Select **Top** tab, set **Top 10** by **Sum of Total Sales**, click **OK**.
4. **Visualize**:
   * Ensure **Bar** chart.
   * Drag Total Sales to **Label**.
5. **Format**:
   * X-axis: Title "Total Sales (£)".
   * Y-axis: Title "Product".
   * Sort descending.
6. **Tooltips**: Include Description, SUM(Total Sales).

**e. Half-Yearly Sales for 2011**

1. **New Worksheet**: Name "Half-Yearly Sales 2011".
2. **Filter 2011**:
   * Drag InvoiceDate to **Filters**, select **Years**, choose **2011**, click **OK**.
3. **Create Half-Year Field**:
   * Right-click InvoiceDate, select **Create > Calculated Field**.
   * Name: Half Year.
   * Formula: IF MONTH([InvoiceDate]) <= 6 THEN 'H1 2011' ELSE 'H2 2011' END.
   * Click **OK**.
4. **Build Visualization**:
   * Drag Half Year to **Columns**.
   * Drag Total Sales to **Rows**, set to **Sum**.
5. **Visualize**:
   * Ensure **Bar** chart.
   * Drag Total Sales to **Label**.
6. **Format**:
   * Y-axis: Title "Total Sales (£)".
   * X-axis: Title "Half Year".
7. **Tooltips**: Include Half Year, SUM(Total Sales).

**Step 4: Create a Dashboard**

1. **Create Dashboard**: Click **New Dashboard**, name "Retail Analysis Dashboard".
2. **Add Worksheets**: Drag all worksheets to the canvas, arrange neatly.
3. **Add Titles**:
   * Drag **Text** object to top, enter "Online Retail Analysis".
   * Ensure worksheet titles are visible.
4. **Make Interactive**: Select each worksheet, click dropdown, choose **Use as Filter**.
5. **Format**: Set dashboard size to **Automatic** or 1200x800 pixels.

**Step 5: Save and Share**

1. **Save**:
   * Click **File > Save to Tableau Public As**.
   * Log in, name it "Online Retail Analysis", save.
2. **Export PDF** (Optional): Click **File > Export as PDF**.
3. **Share**: Use the Tableau Public URL to share your workbook.

**Tips**

* **Undo**: Use **Ctrl+Z** or **Undo** button.
* **Help**: Check Tableau’s **Help** menu or online tutorials.
* **Practice**: Experiment with dragging fields to shelves.
* **Verify Data**: Check filters and data types if results seem off.

This guide equips you to visualize the retail dataset effectively in Tableau, answering all business questions with clear, interactive charts.