**Part 1: Loading the Data**

1. **Open Power BI Desktop**:
   * Launch Power BI Desktop on your computer.
2. **Import Data**:
   * Click on Get Data from the Home tab.
   * Select Excel and navigate to the location of your BookshopLibraries.xlsx and Bookshop.xlsx files.
   * Load both datasets into Power BI.

**Part 2: Setting Up Relationships**

1. **Open the Model View**:
   * Click on the Model icon on the left-hand side to open the Model view.
2. **Set Up Relationships**:
   * **Orders and Products Relationship**:
     + Drag the ProductID column from the Orders table to the ProductID column in the Products table.
     + Ensure the relationship is set to Many to One (\*:1) with Products as the one side.
   * **Orders and Customers Relationship**:
     + Drag the CustomerID column from the Orders table to the CustomerID column in the Customers table.
     + Ensure the relationship is set to Many to One (\*:1) with Customers as the one side.
3. **Verify Relationships**:
   * Click on each relationship line to open the relationship editor.
   * Ensure the following settings:
     + Cardinality: Many to One (\*:1)
     + Cross filter direction: Single
     + Active: Checked

**Part 3: Creating Visualizations**

**Visualization 1: Total Revenue by Product (Bar Chart)**

1. **Navigate to the Report View**:
   * Click on the Report icon on the left-hand side.
2. **Create a Bar Chart**:
   * Click on the Clustered bar chart icon in the Visualizations pane.
3. **Add Data to the Bar Chart**:
   * Drag ProductName from the Products table to the Axis field well.
   * Drag TotalRevenue measure to the Values field well.
4. **Format the Bar Chart**:
   * Click on the bar chart to select it.
   * Use the Format pane (paint roller icon) to adjust settings such as data labels, title, and colors.

**Visualization 2: Percent of Total Revenue by Product (Donut Chart)**

1. **Create a Measure for Total Revenue**:
   * Go to the Modeling tab.
   * Click on New Measure.
   * Enter the formula:

DAX

Copy code

TotalRevenue = SUMX(Orders, Orders[Quantity] \* RELATED(Products[Price]))

1. **Create a Donut Chart**:
   * Click on the Donut chart icon in the Visualizations pane.
2. **Add Data to the Donut Chart**:
   * Drag ProductName from the Products table to the Legend field well.
   * Drag the TotalRevenue measure to the Values field well.
3. **Format the Donut Chart**:
   * Click on the donut chart to select it.
   * Use the Format pane to adjust settings such as data labels, title, and colors.

**Visualization 3: Percent of Orders by Product (Donut Chart)**

1. **Create a Measure for Total Orders**:
   * Go to the Modeling tab.
   * Click on New Measure.
   * Enter the formula:

DAX

Copy code

TotalOrders = COUNTROWS(Orders)

1. **Create a Donut Chart**:
   * Click on the Donut chart icon in the Visualizations pane.
2. **Add Data to the Donut Chart**:
   * Drag ProductName from the Products table to the Legend field well.
   * Drag the TotalOrders measure to the Values field well.
3. **Format the Donut Chart**:
   * Click on the donut chart to select it.
   * Use the Format pane to adjust settings such as data labels, title, and colors.

**Visualization 4: Revenue Trend by Product (Line Chart)**

1. **Create a Line Chart**:
   * Click on the Line chart icon in the Visualizations pane.
2. **Add Data to the Line Chart**:
   * Drag OrderDate from the Orders table to the Axis field well.
   * Drag the TotalRevenue measure to the Values field well.
   * Drag ProductName from the Products table to the Legend field well.
3. **Format the Line Chart**:
   * Click on the line chart to select it.
   * Use the Format pane to adjust settings such as data labels, title, and colors.

**Visualization 5: Top 5 Products by Revenue (Bar Chart)**

1. **Create a Bar Chart**:
   * Click on the Clustered bar chart icon in the Visualizations pane.
2. **Add Data to the Bar Chart**:
   * Drag ProductName from the Products table to the Axis field well.
   * Drag the TotalRevenue measure to the Values field well.
3. **Apply Top N Filter**:
   * In the Filters pane, drag the ProductName field to the Filters on this visual section.
   * Click on the drop-down arrow next to ProductName.
   * Select Top N.
   * Enter 5 in the Show items field.
   * Drag the TotalRevenue measure to the By value field.
   * Click Apply filter.