**🧾 Task 37: Sales Order Visualization (Sample Superstore Dataset)**

**Objective: Use Sample Superstore dataset to visualize sales trends.**

**a. Plot Sales by Region**

1. **Open Tableau and connect to the Sample Superstore dataset.**
2. **Go to a new worksheet.**
3. Drag Region to **Columns**.
4. Drag Sales to **Rows**.
5. Use the **Show Me** panel to select **Bar Chart**.
6. You can also drag Profit to **Color** to color-code based on profitability.

✅ Result: A bar chart showing sales in each region.

**b. Plot Year, Month, Quarter-wise Sale**

1. Create a new worksheet.
2. Drag Order Date to **Columns**.
3. Tableau auto-generates a hierarchy (Year, Quarter, Month).
   * Click the **+** icons on Order Date to expand by **Year → Quarter → Month**.
4. Drag Sales to **Rows**.
5. Use **Line Chart** or **Bar Chart** from “Show Me” to visualize trends.

✅ Result: A time-based view of sales at different granularities.

**c. Plot Year-wise Sale vs Profit**

1. Create another new worksheet.
2. Drag Order Date to **Columns**, right-click → select **Year**.
3. Drag Sales to **Rows**.
4. Drag Profit to the **Rows** again (drop it next to Sales to get two lines).
5. Change the chart type to **Dual Axis** (Right-click on axis → Dual Axis).
6. Synchronize axes if needed.

✅ Result: Dual-axis chart comparing yearly sales vs. profit.

**📊 Task 38: Sales Order Dashboard (Sample Superstore Dataset)**

This builds upon Task 37 and includes the **Dashboard creation** step.

**a. Plot Sales by Region**

Same as Task 37a.

**b. Plot Year, Month, Quarter-wise Sale**

Same as Task 37b.

**c. Plot Year-wise Sale vs Profit**

Same as Task 37c.

**d. Create Dashboard**

1. **Click “Dashboard” → New Dashboard**.
2. On the left panel, drag in the three sheets you created (Sales by Region, Sales by Time, Sales vs Profit).
3. Resize and arrange them appropriately.
4. **Add Filters (optional):**
   * Use global filters such as Segment, State, or Category by dragging them into the dashboard and selecting “Apply to all using this data source”.
5. **Add Interactivity (Optional):**
   * Go to **Dashboard → Actions → Filter** to allow clicking one chart to filter others.
   * You can also add drop-downs for filtering by region or category.

**🛒 Task 34: Superstore Sales Dashboard**

**Dataset:** Sample - Superstore (available in Tableau)

**a. Create an interactive dashboard showing total sales, profit, and quantity by region and category.**

1. **Load the Dataset:**
   * Open Tableau and connect to the Sample - Superstore dataset.
2. **Create Individual Sheets:**
   * **Sheet 1:** Drag Region to Columns and Sales, Profit, and Quantity to Rows.
   * **Sheet 2:** Drag Category to Columns and Sales, Profit, and Quantity to Rows.
3. **Build the Dashboard:**
   * Navigate to the Dashboard tab.
   * Drag both sheets onto the dashboard workspace.
   * Use the 'Show Me' panel to adjust the visualization types (e.g., bar charts).
4. **Add Interactivity:**
   * Use filters and actions to allow users to drill down by region and category.

**b. Use filters to drill down by State, Segment, and Sub-Category.**

1. **Add Filters:**
   * Drag State, Segment, and Sub-Category to the Filters shelf in each sheet.
2. **Show Filter Controls:**
   * Right-click on each filter and select 'Show Filter' to display filter controls on the dashboard.

**c. Build a map visualization of sales by state with color-coded profit margins.**

1. **Create a New Sheet:**
   * Drag State to the Rows shelf. Tableau will automatically generate a map.
2. **Add Sales and Profit:**
   * Drag Sales to Size and Profit to Color on the Marks card.
3. **Adjust Map Settings:**
   * Use the 'Map' options to adjust the map style and color schemes.

**d. Identify top 10 products by profit and by sales volume.**

1. **Create a New Sheet for Top 10 Products by Profit:**
   * Drag Product Name to Rows and Profit to Columns.
   * Sort the products by profit in descending order.
   * Use the 'Top N' filter to display the top 10 products.
2. **Create a New Sheet for Top 10 Products by Sales Volume:**
   * Repeat the above steps, replacing Profit with Sales.([Medium](https://apple90joy.medium.com/superstore-sales-analysis-project-portfolio-using-excel-mysql-and-tableau-3647ee61fea2?utm_source=chatgpt.com))

**🎓 Task 35: Student Performance Analysis**

**Dataset:** StudentsPerformance.csv

**a. Visualize score distributions in Math, Reading, and Writing using histograms.**

1. **Create Individual Sheets:**
   * **Sheet 1:** Drag Math Score to Columns and Number of Records to Rows. Change the mark type to 'Bar'.
   * **Sheet 2:** Repeat the above step for Reading Score.
   * **Sheet 3:** Repeat the above step for Writing Score.([MahaOnline](https://mahaonline.digital/tableau-practice-problems-with-solutions?utm_source=chatgpt.com))
2. **Adjust Bin Sizes:**
   * Right-click on the score field and select 'Edit'. Adjust the bin size as needed.

**b. Compare performance by gender, parental education, and lunch type.**

1. **Create a New Sheet:**
   * Drag Gender to Columns and Math Score to Rows.
   * Repeat for Parental Level of Education and Lunch.([Vizly | Your AI Data Analyst](https://vizly.fyi/share/797eb57f-e69c-4801-9716-d3bfd2e56ff5/e385f399-abd1-4ea2-ab90-02b252bbe741?utm_source=chatgpt.com), [Medium](https://apple90joy.medium.com/superstore-sales-analysis-project-portfolio-using-excel-mysql-and-tableau-3647ee61fea2?utm_source=chatgpt.com))
2. **Adjust Visualization Types:**
   * Use bar charts or box plots to compare distributions.

**c. Create a KPI dashboard showing average scores and pass/fail rates by gender.**

1. **Create Individual KPI Sheets:**
   * **Sheet 1:** Calculate the average score for each gender.
   * **Sheet 2:** Calculate the pass/fail rate for each gender.
2. **Build the Dashboard:**
   * Navigate to the Dashboard tab.
   * Drag the KPI sheets onto the dashboard workspace.

**d. Identify if students who took the test preparation course performed better.**

1. **Create a New Sheet:**
   * Drag Test Preparation Course to Columns and Math Score to Rows.
   * Use a box plot to visualize score distributions.
2. **Analyze Results:**
   * Compare the distributions to assess performance differences.

**🏡 Task 36: Real Estate Market Dashboard**

**Dataset:** Kaggle housing.csv

**a. Compare median listing prices by region and time using line graphs.**

1. **Create Individual Sheets:**
   * **Sheet 1:** Drag Region to Columns and Listing Price to Rows. Use a line graph to show trends over time.
   * **Sheet 2:** Repeat for different time periods (e.g., monthly, quarterly).

**b. Use a scatter plot to show price vs. square footage.**

1. **Create a New Sheet:**
   * Drag Square Footage to Columns and Listing Price to Rows.
   * Change the mark type to 'Circle' for a scatter plot.

**c. Filter views by property type and city.**

1. **Add Filters:**
   * Drag Property Type and City to the Filters shelf in each sheet.
2. **Show Filter Controls:**
   * Right-click on each filter and select 'Show Filter' to display filter controls on the dashboard.

**d. Visualize price trends over time and identify areas with highest growth.**

1. **Create a New Sheet:**
   * Drag Time to Columns and Listing Price to Rows.
   * Use a line graph to show price trends over time