Full Tableau Steps for Data Visualization Lab Exam (22CSL472)

Dataset Used: Sample Superstore

Q1. Segment-wise Sales Analysis

Question:

- Which segment has the highest sales across all years?
- In which year and category were the home office sales greater than corporate sales?

Steps:

1. Open Tableau and connect to the Sample Superstore Excel file.
2. Go to Sheet 1.
3. Drag **Order Date** to the **Columns** shelf. Click on the drop-down arrow and select **Year**.
4. Drag **Segment** to the **Rows** shelf.
5. Drag **Sales** to the **Rows** shelf beside Segment.
6. Now you will see a line chart. Click the **Show Me** panel and select **Bar Chart** if it is not selected automatically.
7. To analyze the comparison between **Home Office** and **Corporate**:
8. Drag **Segment** to the **Filters** shelf → Choose **Home Office** and **Corporate**.
9. Drag **Category** to **Color** under the **Marks** card.
10. You can duplicate the sheet and do the same with only **Home Office** filtered, then compare.

Q2. State-wise Profit and Product Returns

Steps:

1. Open a new sheet.
2. Drag **State** to **Rows**.
3. Drag **Profit** to **Columns**.
4. To see the number of products returned (if return info is not directly available):
5. If there is a return flag, drag it to **Color** or **Filter**.
6. Otherwise, blend the data with a separate returns dataset (if provided).
7. You can create a calculated field to analyze net profit or return impact.

Q3. Profit Ratio and Vendor Insights

Steps:

1. Create a new sheet.
2. Drag **Sub-Category** to **Rows**.

3. Drag **Profit** and **Sales** to **Columns**.
4. Create a new calculated field:
5. Go to **Analysis > Create Calculated Field**
6. Name it `Profit Ratio`, and use the formula: `SUM([Profit])/SUM([Sales])`
7. Click OK.
8. Drag **Profit Ratio** to **Label** on the Marks card.
9. To focus on Laptops and Tablets:
10. Drag **Sub-Category** to **Filter** and choose Laptops and Tablets.

Q4. Profit Ratio for Binders in East Region (4 Years Back)

Steps:

1. Open a new sheet.
2. Drag **Order Date** to **Filters** → Select **Years** → Choose the year that is 4 years ago.
3. Drag **Region** to **Filters** → Select **East**.
4. Drag **Category** and **Sub-Category** to **Rows**.
5. Drag **Sales** and **Profit** to **Label**.
6. Create a calculated field for Profit Ratio as before and add to **Label**.
7. Use **Filter** to show only **Binders** under sub-category.

Q5. Highest Number of Returned Products by Customers

Steps:

1. Create a new sheet.
2. Drag **Customer Name** to **Rows**.
3. Drag **Product Name** or **Returned Items** (if available) to **Columns** or **Label**.
4. Use **COUNTD(Order ID)** to count number of distinct orders.
5. Use Filter to show customers who returned more than 50% of their products.
6. Sort by descending order.

Q6. Combined Sales for Top 2 and Bottom 2 Paper Products

Steps:

1. Create a new sheet.
2. Drag **Category** to **Filter** → Select only **Paper**.
3. Drag **Sub-Category** to **Rows**.
4. Drag **Sales** to **Columns**.
5. Sort descending.
6. Note down the top 2 and bottom 2 sub-categories.
7. Create a new sheet and filter only those 4 sub-categories.

8. Show combined sales as a bar or pie chart.

Q7. Orders and Customers in Bin 4

Steps:

1. Go to a new sheet.
2. Create a histogram:
3. Drag **Customer Name** to **Rows**.
4. Drag **Number of Orders** (create a calculated field: COUNTD(Order ID)) to Columns.
5. Drag this field into the **Rows** shelf again.
6. Create bins by right-clicking on the calculated field → Create → Bins → Set bin size as desired.
7. Drag **Bins** to Columns.
8. Enable **Labels** to see number of orders in Bin 4.
9. To see the customer generating highest profit:
10. Drag **Customer Name** to Rows.
11. Drag **Profit** to Columns.
12. Sort descending and enable Label to see values.

Q8. Time-based Product Breakdown

Steps:

1. Create a new sheet.
2. Drag **Order Date** to **Columns** → Right-click and choose **Year**.
3. Drag **Product Name** to Rows.
4. Drag **Sales** and **Profit** to Columns.
5. Drag **Region** and **State** to Filters.
6. Use **Color** or **Size** to show differences in values.
7. To find state with only one product:
8. Drag **State** and **Product Name** to Rows.
9. Use **COUNTD(Product Name)** and filter where it equals 1.

Q9. State-wise Contribution of Sales

Steps:

1. Create a pie chart view:
2. Drag **State** to **Rows**.
3. Drag **Sales** to **Angle** in the Marks card.
4. Drag **Sales** again to **Label**.
5. Sort by highest percentage contribution.
6. To find New York's profit ratio:

7. Filter **State** to New York.
8. Drag **Profit** and **Sales** to view.
9. Create calculated field: `Profit Ratio = SUM(Profit)/SUM(Sales)`.
10. Show as Label or Tooltip.

Q10. Sales Goal Analysis

Steps:

1. Create a calculated field: `Customer Count = COUNTD(Customer Name)`.
2. Drag **State** to Rows.
3. Drag **Customer Count** to Columns.
4. Create a parameter or calculation to simulate 100 customers in states with fewer than 100.
5. Create a bullet chart:
6. Drag **Sales** to Columns.
7. Create field `Goal Sales = Sales * 1.2` (for 20% increase).
8. Drag `Goal Sales` to Columns.
9. Change Marks type to **Gantt Bar** for actual and **Line** for goal.
10. Filter to only show states with customer count < 100 and ≥ 100 separately.

Q11. Bottom Two Products and Profit Ratio for Supplies

Steps:

1. Drag **Product Name** to Rows.
2. Drag **Sales** to Columns.
3. Sort ascending to find bottom two.
4. Create filter to show only bottom 2 products.
5. For Supplies:
6. Filter **Category** to **Supplies**.
7. Drag **Sales** and **Profit** to view.
8. Create `Profit Ratio = SUM(Profit)/SUM(Sales)` and drag to Label.

Q12. Bin 4 Orders and Customer Profit Analysis

Steps:

1. Similar to Q7, create bin for number of orders.
2. Create calculated field for order count.
3. Create bins for that field and filter for Bin 4.
4. To find highest profit customer:
5. Drag **Customer Name** to Rows.
6. Drag **Profit** to Columns.

7. Sort descending.

Q13. Formatting Subcategory Views

Steps:

1. Create or use existing view with **Sub-Category** and **Sales**.
2. Go to **Worksheet > Show Caption**.
3. Add **Title** and **Caption** using Worksheet menus.
4. Use **Text Box** for custom annotations.
5. Drag **Profit Ratio** to Label and format.
6. Use **Color** to shade bars based on Profit Ratio.

Q14. Region-wise and Subcategory Profit Analysis

Steps:

1. Drag **Region** to Rows.
2. Drag **Profit** to Columns.
3. Filter Region = Central → Check profit value.
4. Drag **Sub-Category** to Rows and filter Region = South.
5. Sort ascending to find lowest-performing subcategory.
6. Use **Color** to highlight poor-performing subcategories.