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dataset for linear regression

experience.csv

Years of Exp

Salary

1.1	39203	9	105582
1.3	46305	9.5	116969
1.5	37731	9.6	112635
2	42525	10.3	122391
2.2	39891	10.5	121872
3	56602		
3.2	60150		
3.2	50005		
3.7	60005		
3.9	57189		
4	63218		
4	55794		
4	56957		
4.1	57031		
4.5	61111		
4.9	67938		
5.1	66029		
5.3	83088		
5.9	81363		
6	93940		
6	91738		
6.8	9170		
7.1	98273		
7.9	101302		
8.2	113812		
8.7	109431		

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dataset for polynomial regression

#81 Salaries.csv

Position	Level	Salary
FDA	1	15000
Assistant	1	25000
Business	2	45000
Analyst	2	50000
Junior	2	50000
Consultant	3	60000
Senior	3	60000
Consultant	4	80000
Manager	4	80000
County	5	110000
Manager	6	150000
Region	6	150000
Manager	7	200000
Partner	7	200000
Senior	8	300000
Partner	8	300000
C-Level	9	500000
Vice President	9	750000
CEO	10	1000000

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9. Program on Creating different chart.

- * Create a bar chart in Tableau to visualize Sales by Category, customize the chart with labels, tooltips and change bar color to orange.

Step 1: Connect to Dataset

- Open Tableau.
- Under Saved Data Sources, click on Sample - Superstore - orders

Step 2: Create Worksheet

- Click on Sheet 1 (Rename it to Category Sales Bar).

Step 3: Build the Bar Chart

- Drag Category to the Columns shelf.
- Drag Sales to the Rows shelf.
- Tableau will automatically generate a vertical bar chart.

Step 4: Show Data Labels

- Click on the Label icon (or Show Mark Labels on the toolbar).
- Sales values will appear above each bar.

Step 5: Change Bar Color to Orange

- Click on the Color button in the Marks card.
- Select Orange from the color palette.

Step 6: Customize Tooltip Message

- Hover over a bar → click on the Tooltip shelf in the Marks card.

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- Edit the tooltip content to include:

Category : <Category>

Sales : <Sales>

This chart shows the details on Category-wise Sales.

- Use the tooltip editor which fields & formatting.
- Click ok to apply [fig.2]

Modify the existing Category vs Sales bar chart to show Sub-Category-wise breakdown within each Category.

Add Sub-Category to Columns

You now want to break each Category into Sub-Categories.

- In the Columns Shelf:
 - Drag Sub-Category next to Category. So it reads: Category > Sub-Category

This creates a nested horizontal axis, grouping sub-categories under each category. [fig.3]

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*. To Create a line chart showing the trend of Sales over Data, using Sub-Category as a filter (single value dropdown) and also to color lines for differentiation.

Step 1: Open Tableau and Connect to Dataset

- Open Tableau
- Connect to Sample - Superstore

Step 2: Create a New Worksheet

- Rename it to : Sales Trend by Sub-Category

Step 3: Build the Line Chart

- Drag Order Date to Columns

Right click on it → choose Month or Exact Date as needed.

- Drag Sales to Rows.

- Drag Sub-Category to Color in the Marks card.

This will give each line a different color for each sub-category

Step 4: Add Sub-Category Filter

- Drag Sub-Category to the Filters shelf.

• In the dialog, select All sub-categories (or specific ones for testing)

- Right click Sub-Category in the Filters shelf → Click Show Filter.

i. Click the small dropdown arrow.

ii. Select Single Value Dropdown. [fig 3]

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Step 5: Format the Chart

- Customize line thickness: Click on Size in Marks Card.
- Add chart title: Double-click on the title area.
- Example: "Monthly Sales Trend by Sub-Category"

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- To create an interactive Bubble Chart

Step 1: Open Tableau and Connect to Dataset.

- Open Tableau.
- Connect to Sample - Superstore.

Step 2: Create a New Worksheet

- Rename to Bubble Chart - Profit by Sub-Category.

Step 3: Build the Bubble Chart.

- Drag Sub-Category to Label.
- Drag Profit to Size and Color.
- Set Marks type to Circle.

Step 4: Add Sub-Category Filter.

- Drag Sub-Category to the Filters shelf.
- In the dialog, select All Sub-categories (or specific ones for testing).
- Right-click Sub-Category in the Filters shelf → click Show Filter.
- On the filter card that appears:
 - iii. Click the small dropdown arrow.
 - iv. Select single Value Dropdown [fig 4]

* To visualize Sales geographically by state using a Filled Map, apply color based on Sales, and allow filtering by Sub-Category.

Step 1: Open Tableau and Connect to Dataset.

- Open Tableau.
- Connect to Sample - Superstore

Step 2: Create a New Worksheet

- Rename the worksheet to: Sales Map by State

Step 3: Build the Map

- Drag state to Detail (Tableau will automatically generate a map)

- Drag Sales to Color on the Marks card.

The map will now be shaded according to total sales in each state (Filled Map)

- Ensure Marks type = Map

If not, select Map from the Marks dropdown.

Step 4: Add Sub-Category Filter.

- Drag Sub-Category to the Filters Shelf.

- In the dialog box, choose All (or any specific ones)

- Right-click Sub-Category in the Filters shelf → Click Show Filter.

- On the filter card:

i. Click the dropdown arrow.

ii. Choose Single Value Dropdown (or Multi-select if preferred).

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Step 5: Format the Map

- Click on Color in Marks card → Choose a gradient - Green-Gold
- Add Labels:
 - Drag Sales to Label
- Rename title as "State-wise Sales with Sub-Category Filter" [fig 5]

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10. Program to use filters and creating pivot table.

To create a text-based pivot table showing Sub-Category and Sales, with filters for state and Sum of Sales.

Step 1: Connect to Dataset.

- Open Tableau and Connect to Sample - Superstore

Step 2: Create Pivot Table (Text Table)

- Go to a new worksheet → name it Sub-Category Sales Pivot.
- Drag Sub-Category in Rows.
- Drag Sales to Text on the Marks card.

This creates a table showing each sub-category with total sales.

- Format the number

Right-click on SUM(Sales) > Format > Set to Currency (0 decimal places)

Step 3: Add Filter for State

- Drag State to the Filters shelf.
- In the filter dialog, select All (or specific ones for test)
- Right-click on State in Filters shelf → Show Filter.
- On the filter card (right panel)

Click dropdown (small triangle on top right) → Choose Single Value Dropdown.

Step 4: Add Filter for Sum of Sales.

This involves creating a calculated field:

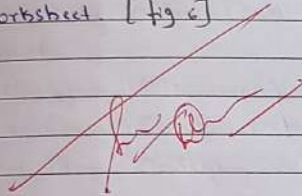
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- i. Go to Analysis > Create Calculated Field.
 - a. Name it: Total Sales.
 - b. Formula: $\text{SUM}(\text{Sales})$
- ii. Click ok
- iii. Drag Total Sales to the Filters shelf.
- iv. Choose Range of Values (e.g., 0 to 50,000).
- v. Right-click on Total Sales in Filters shelf → Show Filter.
- vi. A slider will appear on the right side of the worksheet. [fig. 6]



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11. Develop a Dynamic Dashboard by creating parameter.

To create a dynamic dashboard with multiple charts using Sales or Profit based on a parameter, with a Category filter applied across all charts.

Step 1: Pre-requisite Sheets (Below three worksheets should be created and kept ready)

Line chart - Trend over Time

- i. Create a new worksheet → Rename: Line Chart.
- ii. Drag order Date to Columns → Right-click → Choose Month.
- iii. Drag Measure Value (Sales/Profit) to Rows
- iv. Drag Category to Color.
- v. Drag Category to Filters → Show Filter → Change to Single Value Dropdown.
- vi. Format title as:

"Monthly Trend: Sales/Profit by Category"

Map Chart - State-wise Intensity

- i. New worksheet → Rename: Map Chart.
- ii. Drag State to Detail.
- iii. Drag Measure Value (Sales/Profit) to Color.
- iv. Set Marks type Map
- v. Drag Category to Filters → Show Filter.

Bar Chart - Category Comparison

- i. New worksheet → Rename: Bar Chart.
- ii. Drag Category to Columns
- iii. Drag Measure Value (Sales/Profit) to Rows.

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- iv. Color: Set to Orange
- v. Show labels and sort descending
- vi. Drag Category to Filters → Show Filter.

Step 2: Create a Parameter to Switch Between Sales & Profit.

- i. Right-click in Data Pane → click Create Parameters.
- ii. Name it as Sales/Profit.
- iii. Configure as:
 - Data Type: String
 - Allowable values: List
 - Enter the values in the list as
 - Sales
 - Profit.

3. Click Ok.

3. Right-click the parameter and choose Show Parameter

Step 3: Create a Calculated Field Using the Parameter.

- i. Right-click in the Data Pane → Create Calculated Field.
- ii. Name it: Measure Value(Sales/Profit)
- iii. Enter formula:

```
IF[Select Measure] = "Sales" THEN [Sales]
ELSE [Profit]
END
```

OR

we can use CASE statement to change the Sales and Profit values as:

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CASE [Sales/Profit]

WHEN 'Sales' THEN [Sales]

WHEN 'Profit' THEN [Profit]

END

iv. Click OK

This calculated field will dynamically hold either Sales or Profit.

Step 4: Create Dashboard and Add Interactivity.

i. Go to Dashboard > New Dashboard.

ii. Name: Dynamic Dashboard - Sales vs Profit.

iii. Drag and arrange.

- Line Chart (top)
- Map (left or center)
- Bar Chart (bottom or side)

Step 5: Add Parameter Control and Sync Filters.

i. Drag the ~~select~~ Measure Parameter onto the dashboard (it shows as dropdown)

ii. On any Category filter → dropdown → Apply to worksheets > All Using This Data Source [fig 1]

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