Sample Sales Dataset

Transaction ID	Product	Category	Region	Sales ($)	Date	Units Sold
T001	Laptop	Electronics	North	1500	2025-01-01	3
T002	Smartphone	Electronics	East	800	2025-01-03	5
T003	Refrigerator	Appliances	West	1200	2025-01-05	2
T004	TV	Electronics	South	900	2025-01-08	1
T005	Washing Machine	Appliances	North	700	2025-01-12	1
T006	Microwave	Appliances	East	500	2025-01-15	3
T007	Camera	Electronics	West	400	2025-01-18	2
T008	Tablet	Electronics	South	600	2025-01-20	4
T009	Blender	Appliances	North	300	2025-01-22	2
T010	Air Conditioner	Appliances	East	2000	2025-01-25	1

Additional Data for Lookups (Tax Rates)

Region	Tax Rate (%)
North	10
East	8
West	9
South	7

Additional Data for Lookups (Product Details)

Product	Supplier	Warranty (Years)
Laptop	TechCo	3
Smartphone	MobilePlus	2
Refrigerator	HomeEssence	5
TV	VisionMax	2

Product	Supplier	Warranty (Years)
Washing Machine	HomeEssence	5
Microwave	KitchenKing	2
Camera	TechCo	3
Tablet	MobilePlus	1
Blender	KitchenKing	2
Air Conditioner	HomeEssence	5

Assignment 1: Data Analysis and Formulas

1. Open the provided sales dataset.
2. Calculate the total sales for each product using **SUM**.
3. Determine the average sales for all products using **AVERAGE**.
4. Identify the maximum sales value using **MAX**.
5. Identify the minimum sales value using **MIN**.
6. Count the total number of transactions using **COUNT**.
7. Add a column for sales tax (10% of the sales value) using formulas.
8. Calculate the total revenue (sales + sales tax) for each product.
9. Use conditional formatting to highlight sales greater than $2,000.
10. Sort the data by total sales in descending order.

Assignment 2: Logical Functions

1. Add a column to determine if sales exceed $2,000 using **IF**.
2. Create a column to categorize sales as "High", "Medium", or "Low" based on thresholds using nested **IF** statements.
3. Use **AND** to find transactions with sales above $5,000 and tax above $500.
4. Use **OR** to flag sales below $2,000 or above $20,000.
5. Calculate a bonus for sales exceeding $8,000 using **IF** (e.g., 5% bonus).
6. Identify transactions in the first quarter using **IF** and date functions.
7. Add a formula to determine if sales are above average.
8. Use **COUNTIF** to count the number of "High" sales categories.
9. Use **IFERROR** to handle errors in a formula.
10. Highlight rows with "Low" sales using conditional formatting.

Assignment 3: Data Visualization

1. Create a bar chart for total sales per product.
2. Add data labels to the bar chart.
3. Create a pie chart showing the percentage of sales by category.
4. Build a line chart to display sales trends over time.
5. Create a scatter plot for sales vs. sales tax.
6. Use a combo chart to display sales and revenue on the same graph.
7. Apply a slicer to filter data in a PivotChart.
8. Format the charts with titles, legends, and colors.
9. Add a trendline to the line chart and display its equation.
10. Save each chart on a separate worksheet.

Assignment 4: Pivot Tables

1. Create a Pivot Table summarizing total sales by product.
2. Add a filter for sales regions.
3. Add columns for sales tax and total revenue in the Pivot Table.
4. Group data by month to show monthly sales trends.
5. Sort the Pivot Table by total revenue in descending order.
6. Add a slicer for product categories.
7. Create a Pivot Chart based on the Pivot Table.
8. Apply conditional formatting to the Pivot Table.
9. Show average sales instead of total sales in the Pivot Table.
10. Add a calculated field for profit (total sales - expenses).

Assignment 5: Advanced Functions

1. Use **VLOOKUP** to retrieve product details from another sheet.
2. Use **HLOOKUP** to find tax rates based on a range.
3. Combine **INDEX** and **MATCH** to find specific data points.
4. Use **TEXT** to format dates and numbers.
5. Use **LEFT**, **RIGHT**, and **MID** to extract parts of text data.
6. Apply **CONCATENATE** (or **TEXTJOIN**) to merge text fields.
7. Use **LEN** to find the length of product descriptions.
8. Use **TRIM** to clean up extra spaces in text fields.
9. Use **SUBTOTAL** to calculate totals for filtered data.
10. Use **OFFSET** to create dynamic ranges.