Dataset:

You are given a dataset containing sales data of a company for the past 12 months. The data includes:

Months: January to December

Revenue (in USD)

Number of Customers

Advertising Spend (in USD)

# Given sales data

months = np.array(["Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul", "Aug", "Sep", "Oct", "Nov", "Dec"])

revenue = np.array([12000, 15000, 18000, 21000, 25000, 23000,

28000, 30000, 27000, 22000, 19000, 17000])

customers = np.array([120, 135, 160, 180, 200, 190, 230, 250, 240, 210, 175, 160])

ad\_spend = np.array([2000, 2200, 2500, 2800, 3200, 3100, 3500, 4000, 3700, 3300, 2900, 2700])

Task 1: Basic Analysis

Find the total annual revenue.

Find the average revenue per month.

Find the month with the highest revenue.

Find the month with the lowest revenue.

Task 2: Customer Analysis

Find the total number of customers for the year.

Find the average revenue per customer for each month.

Identify the month with the highest number of customers.

Task 3: Advertising Performance

Compute the Revenue-to-Ad Spend Ratio for each month.

Identify the month with the highest ROI (Return on Investment) in advertising.

Find the correlation coefficient between advertising spend and revenue.

Task 4: Trend Analysis

Compute the monthly revenue growth rate (percentage change from the previous month).

Identify the months where revenue declined compared to the previous month.

**ANSWER**