## Scenario:

You are tasked with analyzing the performance of employees in a company. The company has collected several features for each employee, including their years of experience, salary, age, number of projects completed, and number of hours worked per week. Your goal is to analyze the dataset to understand the key performance indicators and how different factors relate to employee performance.

## Analysis Tasks:

Mean Salary: Calculate the mean salary of all employees.

Median Age: Find the median age of the employees.

IQR for Projects Completed: Calculate the Interquartile Range (IQR) for the number of projects completed.

Z-Score for Performance Rating: Calculate the Z-score for the performance rating of employee 7 (who has the highest performance rating).

Variance and Standard Deviation for Hours Worked: Calculate the variance and standard deviation for the number of hours worked per week.

## Visualization Tasks:

Use Excel to create the following visualizations based on the analysis:

Bar Chart for Mean Salary: Create a bar chart to visually represent the mean salary of all employees.

Histogram for Age Distribution: Create a histogram to show the distribution of ages across employees.

Scatter Plot for Hours Worked vs. Performance Rating: Create a scatter plot to explore the relationship between the number of hours worked and the performance ratings.

## Deliverables:

A comprehensive report will include the following deliverables:

Mean Salary Calculation detailed calculation steps and results (show equations and steps manually)

Median Age Calculation detailed calculation steps and results (show equations and steps manually)

IQR for Projects Completed detailed calculation steps and results (show equations and steps manually)

Z-Score for Performance Rating detailed calculation steps and results (show equations and steps manually)

Variance and Standard Deviation for Hours Worked per week detailed calculation steps (show equations and steps manually)

Excel data Visualizations:

The report will include the following visualizations, created in Excel:

Bar Chart for Mean Salary: A visual representation of the mean salary across employees.

Histogram for Age Distribution: A histogram of the employee age distribution.

Scatter Plot for Hours Worked vs. Performance Rating: A scatter plot showing the correlation between hours worked and performance ratings.