Employee Work Productaivity Analysis

Assignment Questions

PW SKILLS

Employee Work Productivity Analysis

- **Dataset Link:** ***Employee Productivity***
- **Rows:** 25
- **Columns:** 7
- **Description:**

This dataset contains information about employee work productivity across different departments. It captures details such as the number of hours worked, the number of tasks completed, productivity scores, and performance ratings. The objective is to analyze employee productivity, identify high-performing departments, and detect patterns that can help improve overall efficiency.

Key Columns

1. **Employee_ID:**
   - Unique identifier for each employee.
   - Helps in avoiding duplication and filtering specific records.
2. **Name:**
   - Full name of the employee.
   - Used for labeling in reports and visualizations.
3. **Department:**
   - Indicates the department (e.g., Sales, Marketing, IT).
   - Helps in department-wise analysis.
4. **Hours_Worked:**
   - Number of hours an employee worked in a week.
   - Used to analyze work hours and productivity correlation.
5. **Tasks_Completed:**
   - Total number of tasks completed by the employee.
   - Measures task efficiency and output.
6. **Productivity_Score:**
   - A numerical score indicating the employee's productivity.
   - Higher scores represent higher productivity.
7. **Performance_Rating:**
   - Rating scale (1-5) based on overall performance.
   - Helps in identifying high and low-performing employees.

Problem Statement Questions

1. **Top 5 Productive Employees:**

a. Use the **SORT and FILTER functions** to display the top 5 employees with the highest productivity scores.

b. Create a **bar chart** to visualize the results.

2. Department-Wise Productivity Consistency

Calculate the **standard deviation** of productivity scores within each department to assess consistency.

- Which department has the **least variation** in employee productivity?

💡 *Use a PivotTable with the **STDEV.P** function grouped by Department.*

3. Productivity Efficiency Index (PEI)

Create a new column **PEI (Productivity Efficiency Index)** using this formula:

```
PEI = (Productivity_Score × Performance_Rating) / Hours_Worked
```

- Rank all employees based on PEI and display the **top 3**.

💡 *Use RANK, SORT, or filters in Excel or Google Sheets.*

4. Correlation Analysis

a. Question 1:

Determine which has a stronger influence on **Performance Rating:** `Hours_Worked or Tasks_Completed`?

Use **correlation coefficients** to compare both relationships.

💡 *Use **CORREL** function.*

b. Question 2:

Work Hours and Productivity Correlation:

i. Create a **scatter plot** to visualize the relationship between `Hours_Worked and Productivity_Score`.

ii. Identify if there is a positive or negative correlation

5. Underutilized High Performers

Question:

Identify employees who:

- Have a **Performance Rating ≥ 4**, AND
- Worked **less than the average hours** of all employees.

These might be **underutilized but efficient employees**.

💡 *Use AVERAGE, FILTER, and logical conditions.*

6. Tasks per Hour Efficiency

Question:

Add a column **`Tasks per Hour`**:

```
Tasks_per_Hour = Tasks_Completed / Hours_Worked
```

- Who is the **most task-efficient** employee based on this metric?
- Compare their performance score and rating.

💡 *Apply **MAX, INDEX-MATCH, or XLOOKUP** to find the top performer and their department.*