Link - https://github.com/bhavya-v-sudo/Assignments/blob/main/Productivity%20Dataset.xlsx

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Question – 1:

1. Formula in J1

=INDEX(SORT(A2:G26, 6, -1), 5, 6)

This finds the 5th highest Productivity Score from the data.

- SORT(A2:G26, 6, -1) sorts the full dataset by the 6th column (Productivity_Score) in descending order.
- INDEX(..., 5, 6) picks the value in row 5, column 6 of that sorted list → i.e., the Productivity Score of the 5th most productive employee.

2. Sorted Table with FILTER + SORT

=SORT(FILTER(A2:G26, F2:F26 >= J1), 6, -1, 0)

- FILTER(A2:G26, F2:F26 >= J1) selects only those rows where Productivity_Score (F column) is greater than or equal to the 5th highest score.
- Then, SORT(..., 6, -1, 0) re-sorts the filtered list by Productivity_Score in descending order.

3. Bar Chart Creation

- I selected the Name and Productivity_Score columns from the sorted output.
- Inserted a Bar Chart using Excel's Insert tab.
- This chart visually showed the top-performing employees and their scores.

Question – 2:

1. Insert a PivotTable

- Select the range
- Go to Insert → PivotTable.
- Place the PivotTable in a new sheet.

2. Group by Department

- Drag the "Department" column into the Rows section.

3. Add Productivity Score

- Drag the "Productivity_Score" into the Values section.
- Click on it → Value Field Settings → Select "Standard Deviation" (STDEV.P).

4. Analyze the Output

- Excel shows the standard deviation of productivity scores for each department.

5. Interpretation

- Marketing has the lowest standard deviation (≈ 2.24).
- This means Marketing employees show the most consistent productivity levels among all departments.

Question -3:

Created a new column (PEI):

Formula:

= (F2 * G2) / D2

Logic: This follows the given formula:
PEI = (Productivity_Score × Performance_Rating) / Hours_Worked

Ranked employees by PEI:

Formula in Rank column:

=RANK.EQ(H2, $H:$H)

Filtered top 3 employees:

Formula:

=FILTER(A2:I26, I2:I26 <= 3, "")

Logic: Filters only those rows where the rank is 3 or better.

Output Result:

- Displayed the top 3 employee records based on PEI in a separate table for easy interpretation.

Question – 4:

a. Which has a stronger influence on Performance Rating?

CORREL Function Usage:

=CORREL(G2:G26, D2:D26) → Hours Worked

=CORREL(G2:G26, E2:E26) → Tasks Completed
Correct usage of CORREL.

Interpretation:

Hours Worked: 0.9462

Tasks Completed: 0.9574
Correct conclusion: Tasks Completed has a stronger influence.

b. Scatter Plot – Hours Worked vs Productivity Score

Scatter plot shows a clear positive trend.

Question – 5:

Step 1: Calculate Average Hours Worked

I used the =AVERAGE() function:

=AVERAGE(D:D)

This gave the average hours worked across all employees: 37.04

Step 2: Filter Underutilized High Performers

I applied the FILTER() function with conditions:

=FILTER(A2:G26, (G2:G26>=4)*(D2:D26 < K1))

Where:

G2:G26>=4 → selects employees with high performance

D2:D26 < K1 → selects employees who worked less than average hours (stored in K1)

The multiplication * acts like an AND condition

Step 3: Result Interpretation

I identified 3 employees: Aakash, Sneha, and Suman

All have Performance Rating = 4

All worked < 37.04 hours

Question – 6:

Step 1: Add a Column for Tasks per Hour

I created a new column to calculate how many tasks each employee completes per hour.

Formula:

=E2/D2

Where:

E2 is the number of Tasks_Completed

D2 is the Hours_Worked

This formula gives the Tasks per Hour Efficiency for each employee.

Step 2: Identify the Most Task-Efficient Employee

I used INDEX and MATCH to find the employee with the maximum value in the Tasks_per_Hour column.

Formula:

=INDEX(B2:H26, MATCH(MAX(H2:H26), H2:H26), 1)

MAX(H2:H26) → Finds the highest value in the Tasks_per_Hour column.

MATCH(MAX(...), H2:H26, 0) → Finds the row number where that max value occurs.

INDEX(B2:H26, ..., 1) → Retrieves the employee name from Column B for that row.