Day 2 Coding Challenge:

Educational Analytics: Impact of Screen Time on Student Performance

Scenario:

The Education Department is conducting a study to explore the impact of screen time on student academic performance and lifestyle habits. You are provided with a dataset that includes various parameters such as study hours, screen time, test scores, and extracurricular activities.

Dataset Columns:

- Student_ID: Unique identifier for each student
- Age: Age of the student
- Study_Hours: Average hours spent studying per day
- Screen_Time: Average screen time per day (in hours)
- Test_Scores: Academic performance (out of 100)
- Extra_Curricular_Hours: Time spent on extracurricular activities (per day)

Your Task as an Analyst

Use **Excel** to analyze the dataset and help the department derive actionable insights.

Step-by-step tasks:

1. **Data Cleaning**
    - Identify and handle missing values
    - Remove duplicate records
    - Ensure consistent formatting (e.g., numeric columns, proper column names)
2. **Data Transformation**
    - Create new calculated fields if needed

- For example, flag students with more than 4 hours of screen time

3. **Pivot Tables**
    - Use pivot tables to analyze:
        - Average test scores by screen time category
        - Screen time vs. extracurricular activity trends
        - Age group-wise performance
4. **Charts & Dashboards**
    - Create at least two visualizations:
        - A **scatter plot** of Screen Time vs. Test Scores
        - A **bar chart** comparing average test scores across screen time ranges
5. **Insights & Reporting**
    - Derive and report key insights:
        - E.g., “Students with >4 hours of screen time score 12% lower on average.”
    - Keep interpretations simple and actionable

Deliverables:

Participants must submit:

- A cleaned and transformed Excel file
- A dashboard with visualizations and pivot tables
- A short write-up (in Excel or separate doc) summarizing their insights (3–5 bullet points)