

REAL LIFE PROBLEM NO 4

Here's a Python programming problem scenario based on the confession theme, designed to subtly highlight potential time-wasting aspects and encourage more productive digital activities:

Scenario:

The Digital Dilemma: Balancing Online Engagement and Productivity

You're a student developer working on a time management app aimed at helping university students strike a balance between their academic goals and online social activities. Your task is to create a function called **analyze_confession_engagement(confession_data)** that analyzes data from a fictional confessions page to provide insights into student behavior and time usage.

Function Inputs:

- **confession_data**: A list of dictionaries, where each dictionary represents a confession post with the following keys:
 - **timestamp**: The date and time the post was made (e.g., "2024-01-28 14:30").
 - **likes**: The number of likes the post received.
 - **comments**: The number of comments on the post.
 - **length**: The length of the post in characters.

Function Outputs:

- **average_time_spent**: The average amount of time spent per confession post, estimated based on length and assuming an average reading speed.
- **most_engaged_hours**: A list of the top 3 hours of the day with the highest overall engagement (likes and comments).
- **popular_topics**: A list of the most common confession topics, identified using keyword analysis.

Additional Requirements:

- Implement clear and concise code using appropriate Python data structures and functions (e.g., lists, dictionaries, conditional statements, loops, string manipulation).
- Use datetime functions to extract and analyze time-related information.
- Incorporate basic text analysis techniques to extract keywords and identify popular topics.

Discussion Prompts:

- What insights can you derive from the confession data?
- How might this data be used to help students understand their online behavior and make more informed choices about time management?

- What alternative online activities could be promoted to enhance productivity and personal development?

Goals:

- Engage students with a relatable topic while fostering critical thinking about time management and digital habits.
- Demonstrate practical applications of Python programming for data analysis and insights.
- Encourage discussions about responsible online engagement and prioritizing academic goals.