🧮 Assignment: Coment in Python

🎯 **Objective:**
To help students understand the purpose and proper usage of comments in Python, including single-line and multi-line comments, for writing clear, readable, and maintainable code.

🟢 Level 1 – Easy

✅ Task 1: Add Single-Line Comments

Write a Python program to:

- Add two numbers
- Subtract two numbers

Add **single-line comments** explaining each step.

Example:

This program adds two numbers

```
a = 10
b = 5
sum = a + b
print(sum)  # Output the result
```

✅ Task 2: Add Multi-Line Comments

Write a program to:

- Calculate the area of a rectangle
- Use **multi-line comments** to describe the purpose of the program at the top.

Example:

"""This program calculates the area of a rectangle. Formula: area = length × width """

```
length = 10
width = 5
area = length * width
print(area)
```

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🟡 Level 2 – Medium

✅ Task 3: Comment Debugging

Given a program with some lines commented out, ask students to:

- Uncomment and fix the code
- Add appropriate comments explaining what each line does

Given Code (Broken):

```
# a = 15
b = 5
# sum = a + b
# print(sum)
```

✅ Task 4: Comment Best Practices

Write a program that:

- Takes user input for name and age
- Displays a greeting message

Students must use **clear and meaningful comments** above each code block or logic.

🔴 Level 3 – Hard

✅ Task 5: Code Without Comments

Provide a working but uncommented Python script and ask students to:

- Add relevant single-line and multi-line comments to explain the code
- Improve the readability without changing the logic

Example Topics:

- Prime number check
- Simple interest calculator
- Factorial using a loop

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✅ Task 6: Inline Comments in Complex Expressions

Write a program that:

- Calculates total marks and percentage
- Uses inline comments to explain complex expressions

Example:

```
total = marks1 + marks2 + marks3  # Sum of all subject marks

percentage = (total / 300) * 100  # Calculate percentage
```