Assignment-2.5

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batch 29

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Task 1: Refactoring Odd/Even Logic (List Version)
❖ Scenario:
You are improving legacy code.
❖ Task:
Write a program to calculate the sum of odd and even numbers in a list, then refactor it using AI.
❖ Expected Output:
❖ Original and improved code

CODE:

```python
def calculate_sum(numbers):
    odd_sum = 0
    even_sum = 0

    for num in numbers:
        if num % 2 == 0:
            even_sum += num
        else:
            odd_sum += num

    return odd_sum, even_sum


numbers = [1, 2, 3, 4, 5, 6]
odd_sum, even_sum = calculate_sum(numbers)

print("Sum of odd numbers:", odd_sum)
print("Sum of even numbers:", even_sum)
```

OUTPUT:

```
rive\Desktop\AI_ASS_CODING\lab_2.5'
PS C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING>  c:; cd 'c:\Users\perum\OneDrive\Desktop\AI_ASS_CODING'; & 'c:\Users\perum\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\perum\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '51015' '--' 'C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING\lab_2.5'
rive\Desktop\AI_ASS_CODING\lab_2.5'
Sum of odd numbers: 9
Sum of even numbers: 12
Sum of odd numbers: 9
Sum of even numbers: 12
50
153.93791
16.0
PS C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING>
```

Task 2: Area Calculation Explanation

❖ Scenario:
You are onboarding a junior developer.

❖ Task:

Ask Gemini to explain a function that calculates the area of different shapes.

❖ Expected Output:

➢ Code

➢ Explanation

CODE:

```
def calculate_sum(numbers):
    odd_sum = sum(num for num in numbers if num % 2 != 0)
    even_sum = sum(num for num in numbers if num % 2 == 0)
    return odd_sum, even_sum


numbers = [1, 2, 3, 4, 5, 6]
odd_sum, even_sum = calculate_sum(numbers)

print("Sum of odd numbers:", odd_sum)
print("Sum of even numbers:", even_sum)
```

OUTPUT:

```
rive\Desktop\AI_ASS_CODING\lab_2.5'
PS C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING>  c:; cd 'c:\Users\perum\OneDrive\Desktop\AI_ASS_CODING'; & 'c:\Users\perum\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\perum\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '51015' '--' 'C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING\lab_2.5'
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16.0
PS C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING>
```
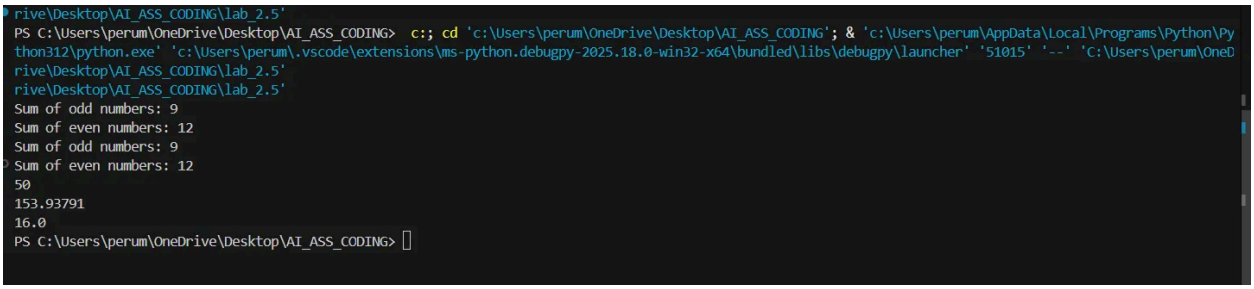

Task 3: Prompt Sensitivity Experiment

❖ Scenario:
You are testing how AI responds to different prompts.
❖ Task:
Use Cursor AI with different prompts for the same problem and observe code changes.
❖ Expected Output:
➢ Prompt list
➢ Code variations

CODE:

```
def calculate_area(shape, dimensions):
    if shape == "rectangle":
        length, width = dimensions
        return length * width

    elif shape == "circle":
        radius, = dimensions
        return 3.14159 * radius * radius

    elif shape == "triangle":
        base, height = dimensions
        return 0.5 * base * height

    else:
        raise ValueError("Unknown shape")


# Example usage
print(calculate_area("rectangle", (5, 10)))
print(calculate_area("circle", (7,)))
print(calculate_area("triangle", (4, 8)))

```

OUTPUT


rive\Desktop\AI_ASS_CODING\lab_2.5'
PS C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING> c:; cd 'c:\Users\perum\OneDrive\Desktop\AI_ASS_CODING'; & 'c:\Users\perum\AppData\Local\Programs\Python\Python312\python.exe' 'c:\Users\perum\.vscode\extensions\ms-python.debugpy-2025.18.0-win32-x64\bundled\libs\debugpy\launcher' '51015' '--' 'C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING\lab_2.5'
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PS C:\Users\perum\OneDrive\Desktop\AI_ASS_CODING>