ASSIGNMENT-4.2

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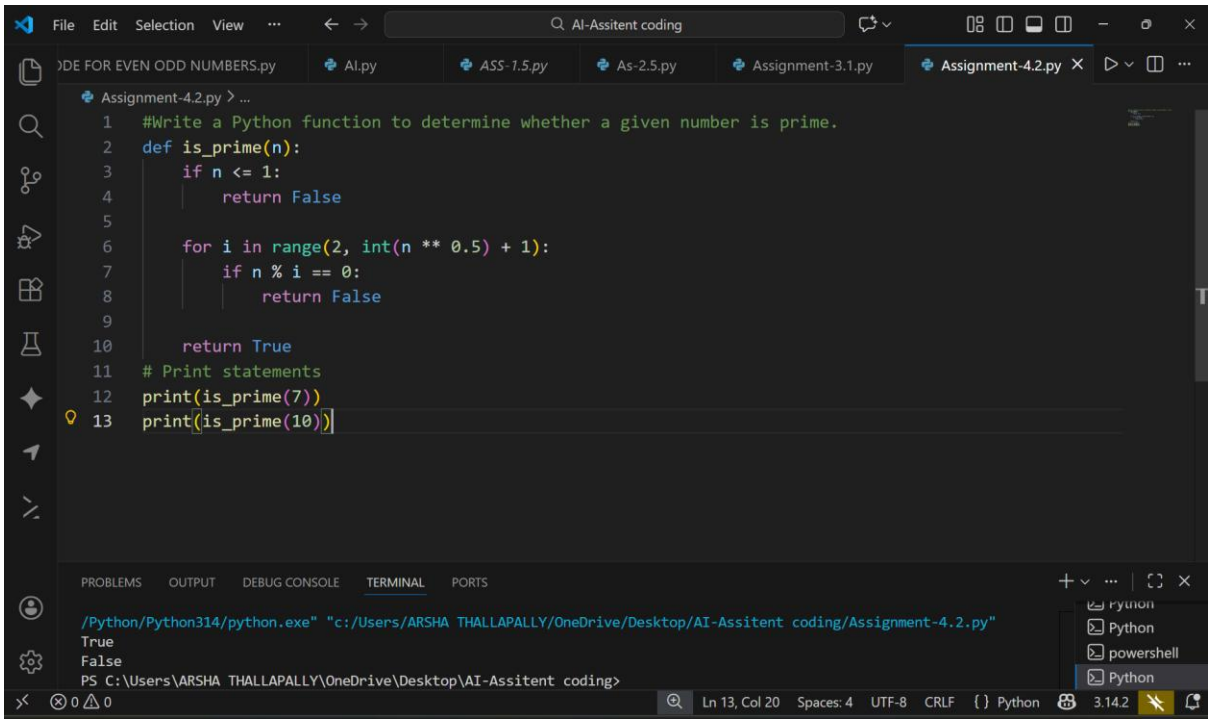
TASK-1: ZERO-SHOT PROMPTING

PROMPT: Write a Python function to determine whether a given number is prime.

CODE:



OBSERVATION:

- AI model understands the concept of a prime number without being given any examples or additional guidance
-It applies correct mathematical reasoning purely from the instruction
-The model generates syntactically correct and logically sound Python code

TASK-2

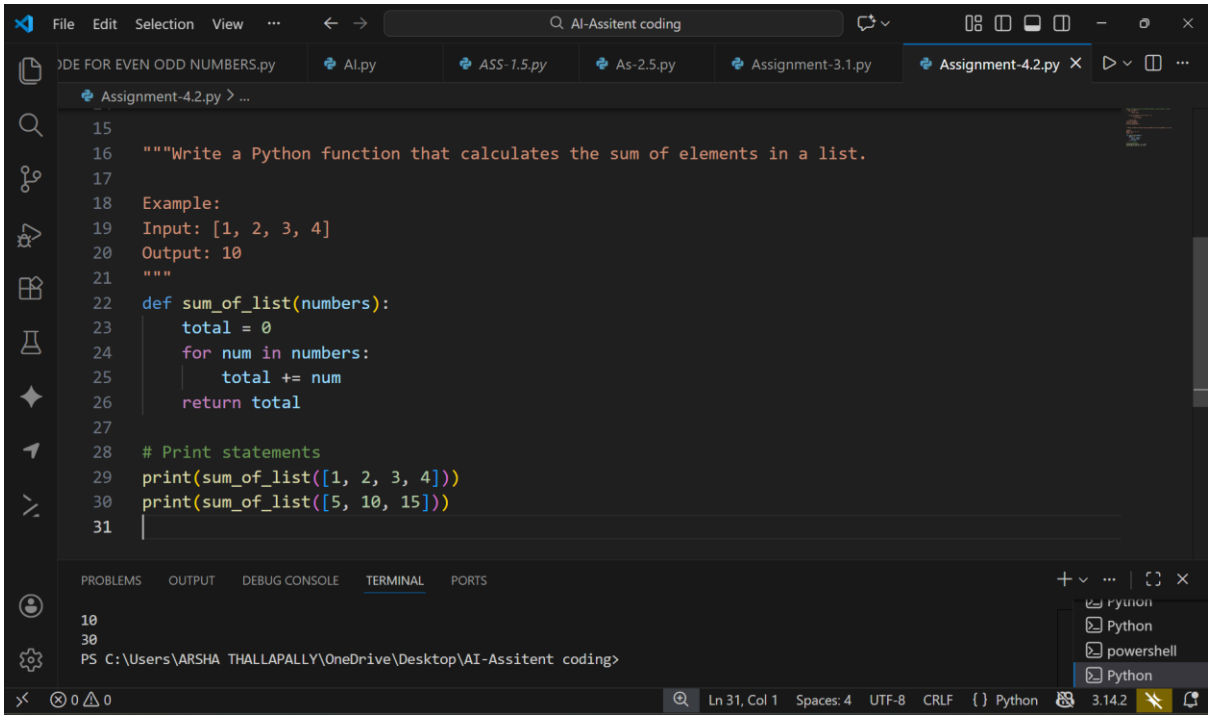
PROMPT: Write a Python function that calculates the sum of elements in a list.

Example:

Input: [1, 2, 3, 4]

Output: 10

CODE:



OBSERVATION:

The single example guides the AI model to understand the expected input and output relationship
The model correctly generalizes the pattern from the example to any list of numbers

TASK-3

PROMPT: Write a Python function that extracts only digits from an alphanumeric string.

Examples:

Input: "a1b2c3"

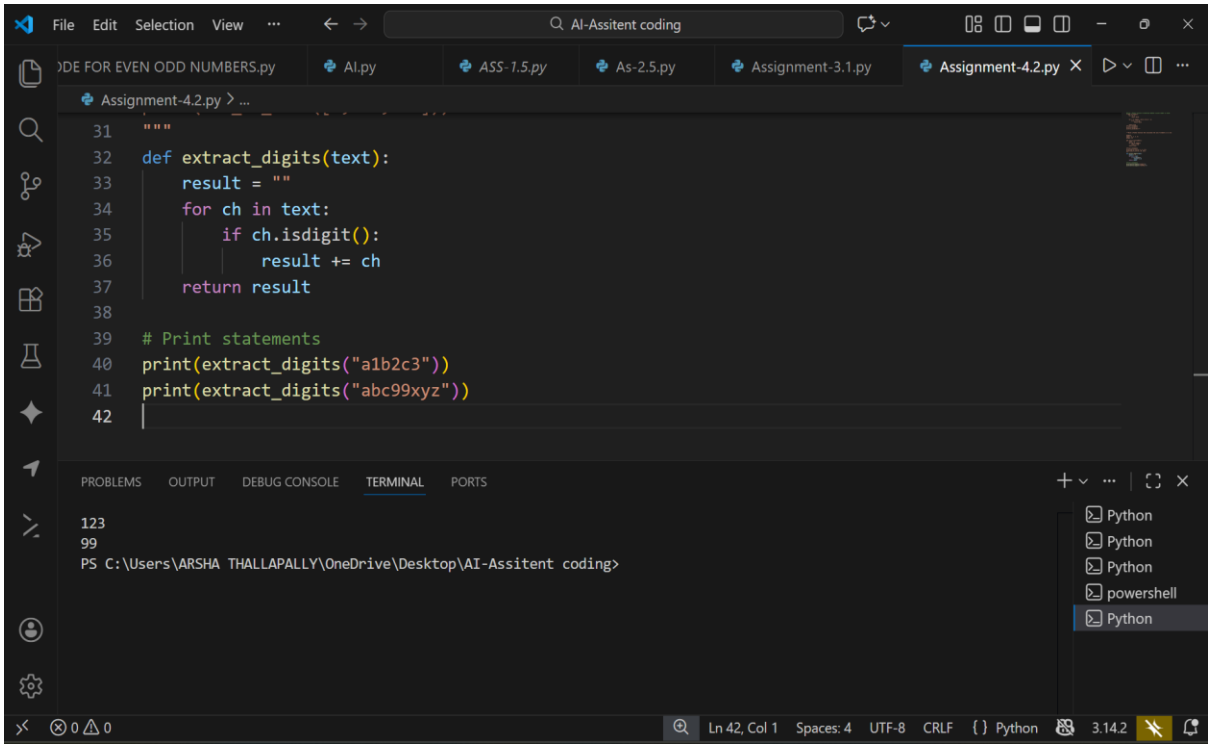
Output: "123"

Input: "x9y8z7"

Output: "987"

Input: "abc123def"

Output: "123"



OBSERVATION:

-Multiple examples help the AI model clearly identify the pattern to be learned
-The model focuses only on digit characters and ignores alphabetic content

-The AI demonstrates improved confidence and reduced ambiguity compared to zero shot and one shot prompting

TASK-4

PROMPT: ZERO-SHOT: Write a Python function that counts the number of vowels in a string.

FEW-SHOT: Write a Python function that counts the number of vowels in a string.

Examples:

Input: "hello"

Output: 2

Input: "AEIOU"

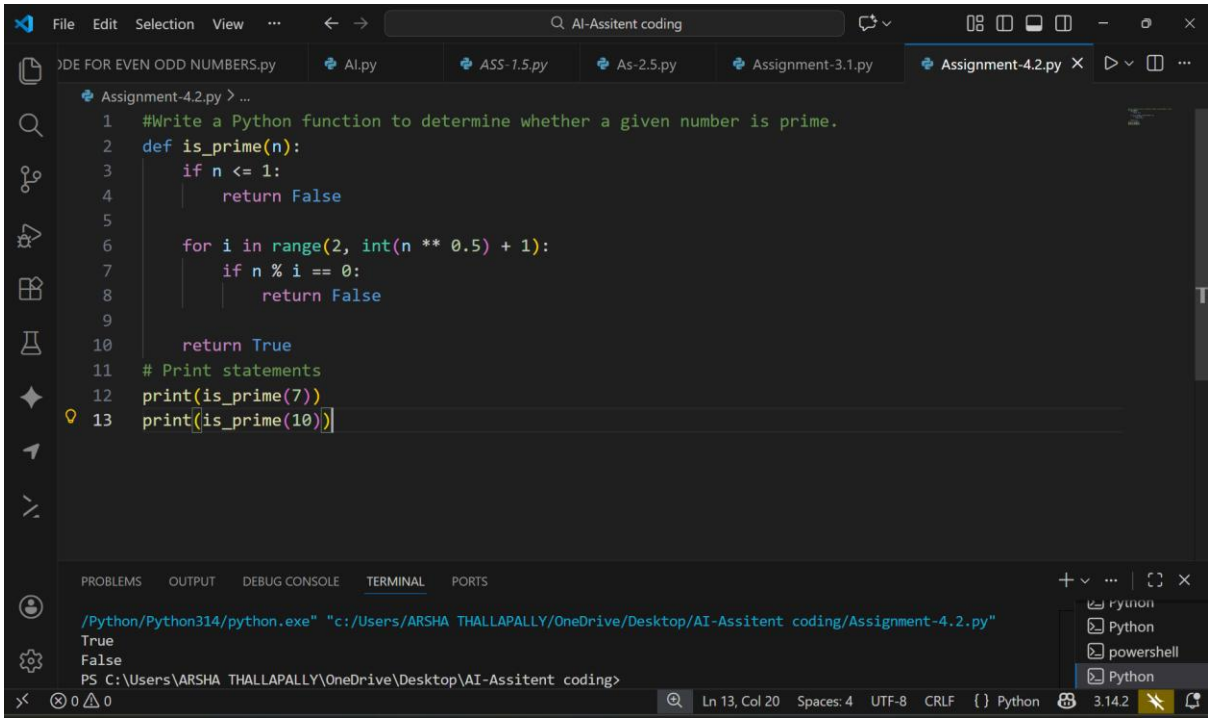
Output: 5

Input: "chatgpt"

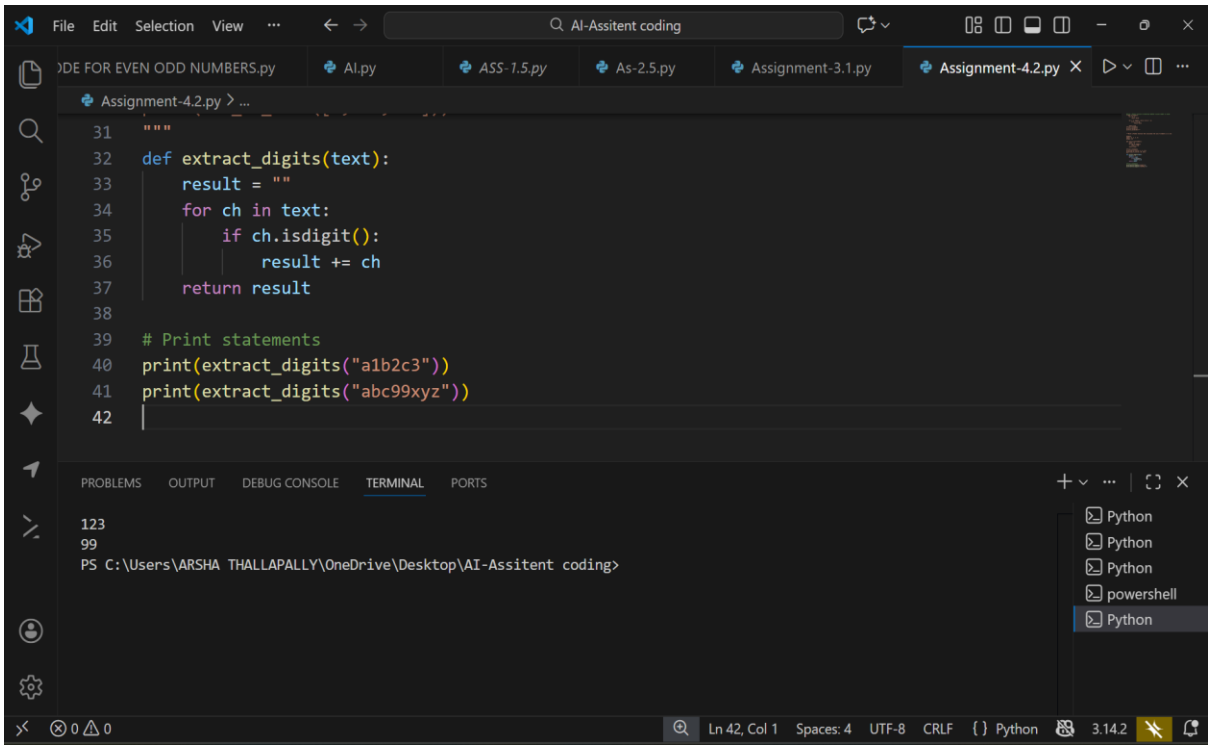
Output: 2

CODE:

ZERO-SHOT:



FEW-SHOT:




```
def count_vowels(text):
    vowels = "aeiouAEIOU"
```

```
    count = 0
    for ch in text:
        if ch in vowels:
            count += 1
    return count
```

OBSERVATION:

FEW-SHOT OBSERVATION

The provided examples clearly define what characters should be counted as vowels
The model confidently includes both uppercase and lowercase vowels due to examples

ZERO SHOT:

zero shot prompting the AI guesses the intent based on general knowledge which may vary for ambiguous tasks

TASK-5

PROMPT:

Write a Python function that determines the minimum of three numbers without using the built-in min() function.

Examples:

Input: 3, 7, 5

Output: 3

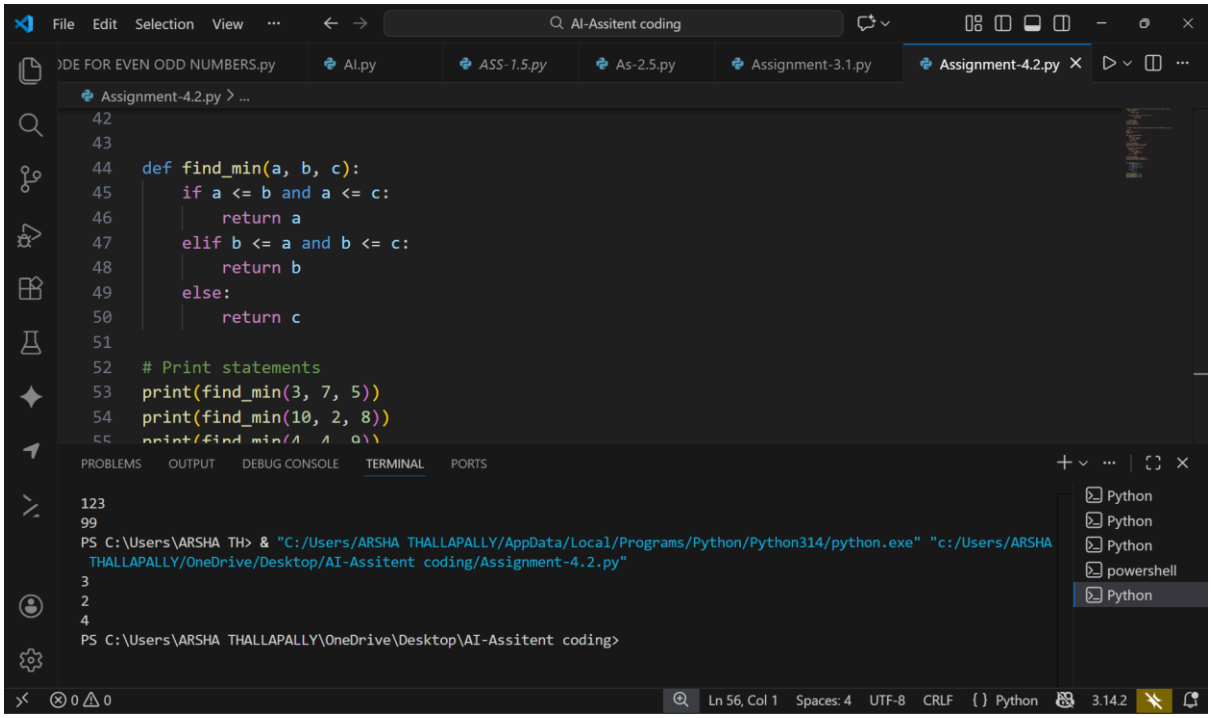
Input: 10, 2, 8

Output: 2

Input: 4, 4, 9

Output: 4

CODE:



OBSERVATION:

The examples clearly establish the comparison pattern needed to identify the smallest value
The AI model infers the requirement to handle equality cases correctly
Conditional logic is generated without relying on built-in functions