ASSIGNMENT -3.1

BATCH-30

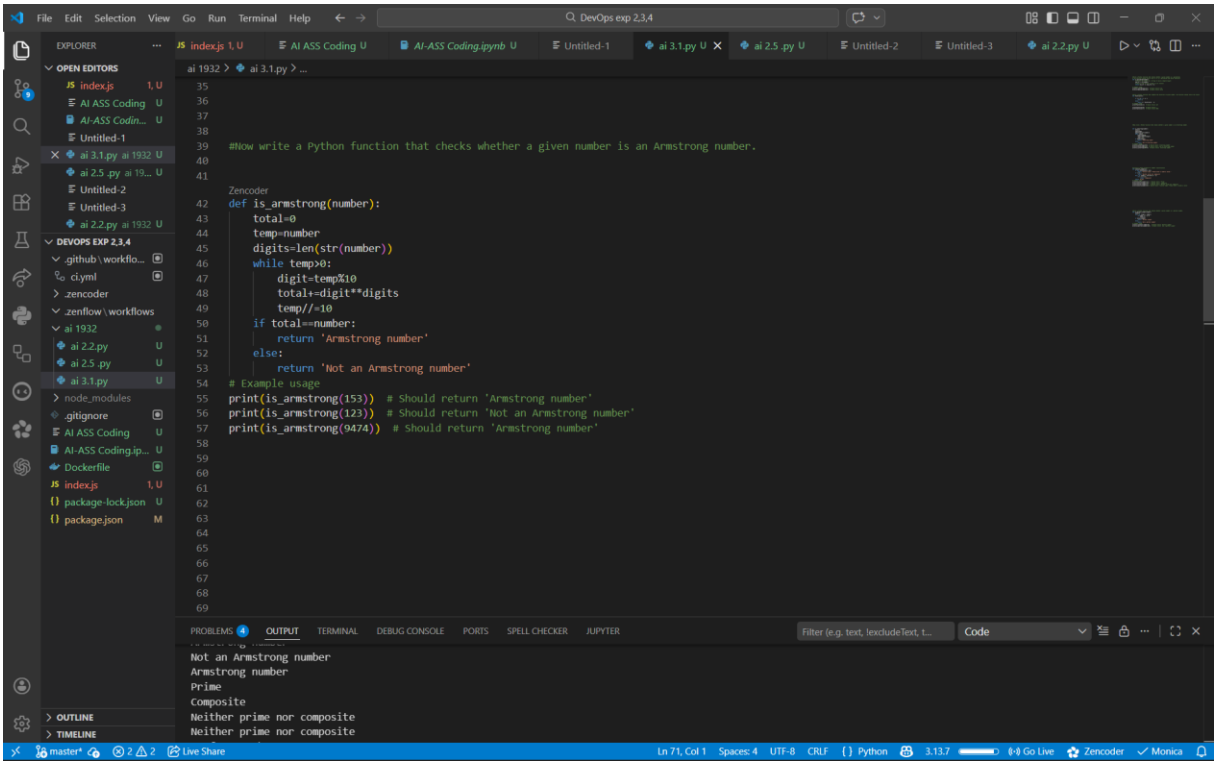
ROLL-NO:2303A51932

NAME-SRAVANI TASK-1:

ZERO-SHOT PROMPTING (PALINDROME NUMBER PROGRAM) PROMPT:

Write a Python function that checks whether a given number is a palindrome. The function should return True if it is a palindrome and False otherwise.

CODE:



OBSERVATION: -

The model is given only the explanation of the question -Any example or detailed explanation is not given -Answer is accurate but not specific with negative and nonintegers values TASK-2:

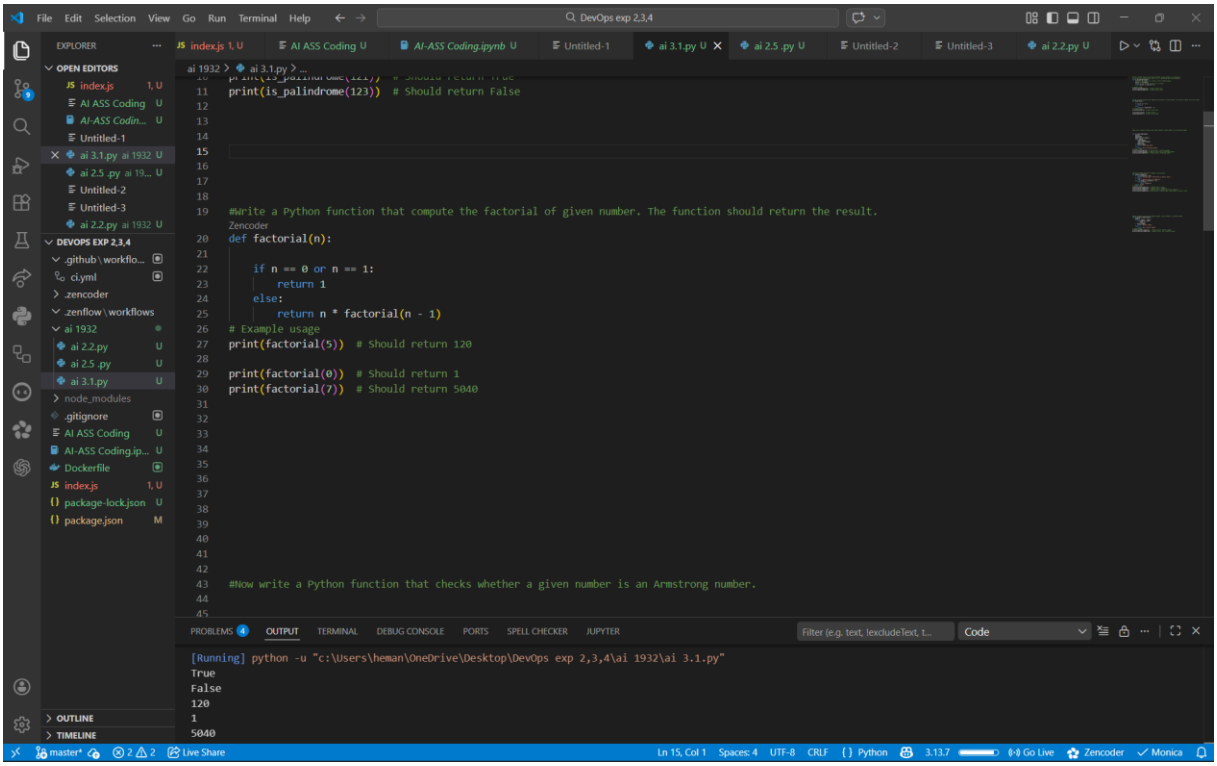
ONE-SHOT PROMPTING (FACTORIAL CALCULATION) PROMPT:

write a python function that compute the factorial of given number. The function should return the result.

Example:

Input:5

Output:120 CODE:



OBSERVATION:

Clear understanding of the output better choice of logic-stack overflow, recursion complexity Correct handling of base case Improve code simplicity TASK-3:

FEW-SHOT PROMPTING (ARMSTRONG NUMBER CHECK)

Prompt:

Example 1:

Input: 153

Output: Armstrong Number Example

2:

Input: 370

Output: Armstrong Number

Example 3:

Input: 123

Output: Not an Armstrong Number Now write a Python function that checks whether a given number is an Armstrong number. The function should return an appropriate result. CODE:

OBSERVATION:

Clear output formatting. structured way Correct logic selection Easy understanding of code Exact Appropriate answer Optimized and customized solution TASK-4:

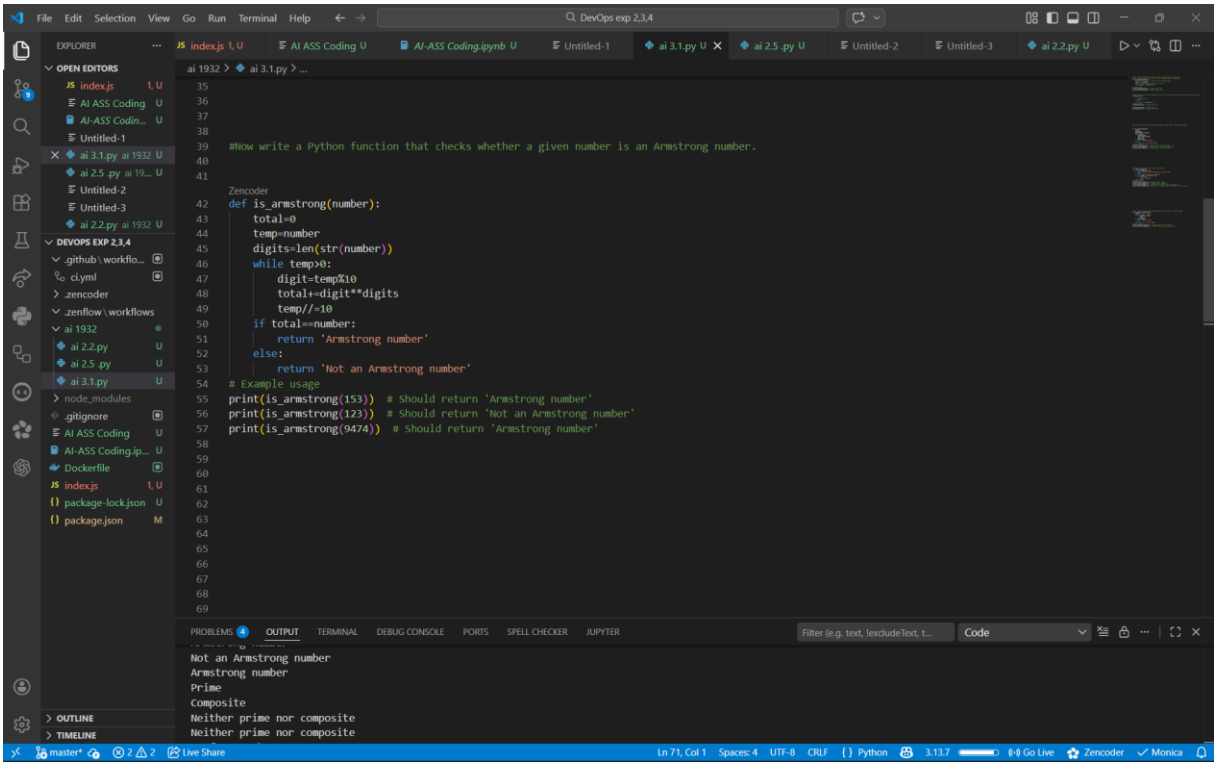
CONTEXT-MANAGED PROMPTING (OPTIMIZED NUMBER CLASSIFICATION) PROMPT:

You are writing a Python program for number classification.

Requirements: -

Accept only integer input - Handle invalid and negative inputs properly - Classify the number as Prime, Composite, or Neither - Optimize the logic for efficiency (avoid unnecessary checks) - Return clear and user-friendly messages - Write clean and readable Python code Generate the program accordingly.

CODE:



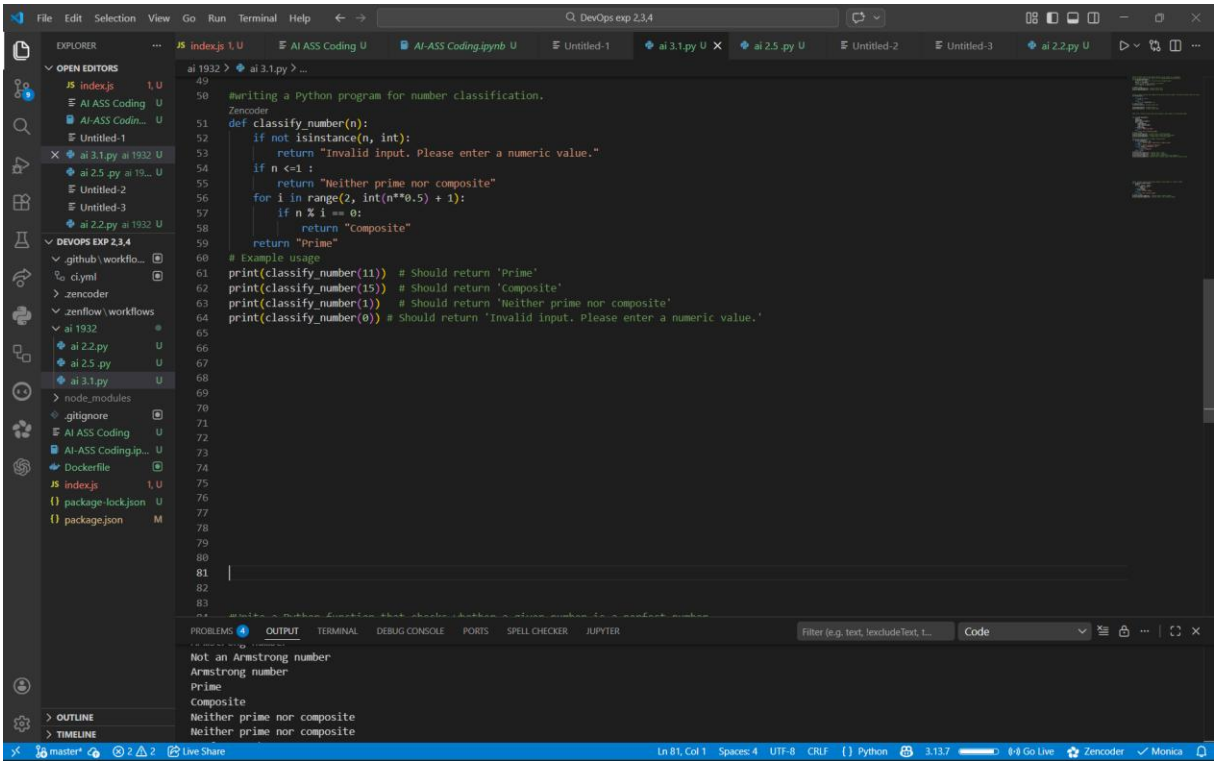
OBSERVATION:

The role is defined Constrains are clearly stated Efficiency and validation of the code but the inputs should be specified more clearly mentioned TASK-5:

ZERO-SHOT PROMPTING (PERFECT NUMBER CHECK) VALIDATION) PROMPT:

Write a Python function that checks whether a given number is a perfect number. The function should return an appropriate result.

CODE:



OBSERVATION:

No input validation – if negative or float any. Inefficient for large input Did not specify input constraints No edge case handing seen TASK-6:

FEW-SHOT PROMPTING (EVEN OR ODD CLASSIFICATION WITH VALIDATION) PROMPT:

Example 1:

Input: 8 Output:

Even Example 2:

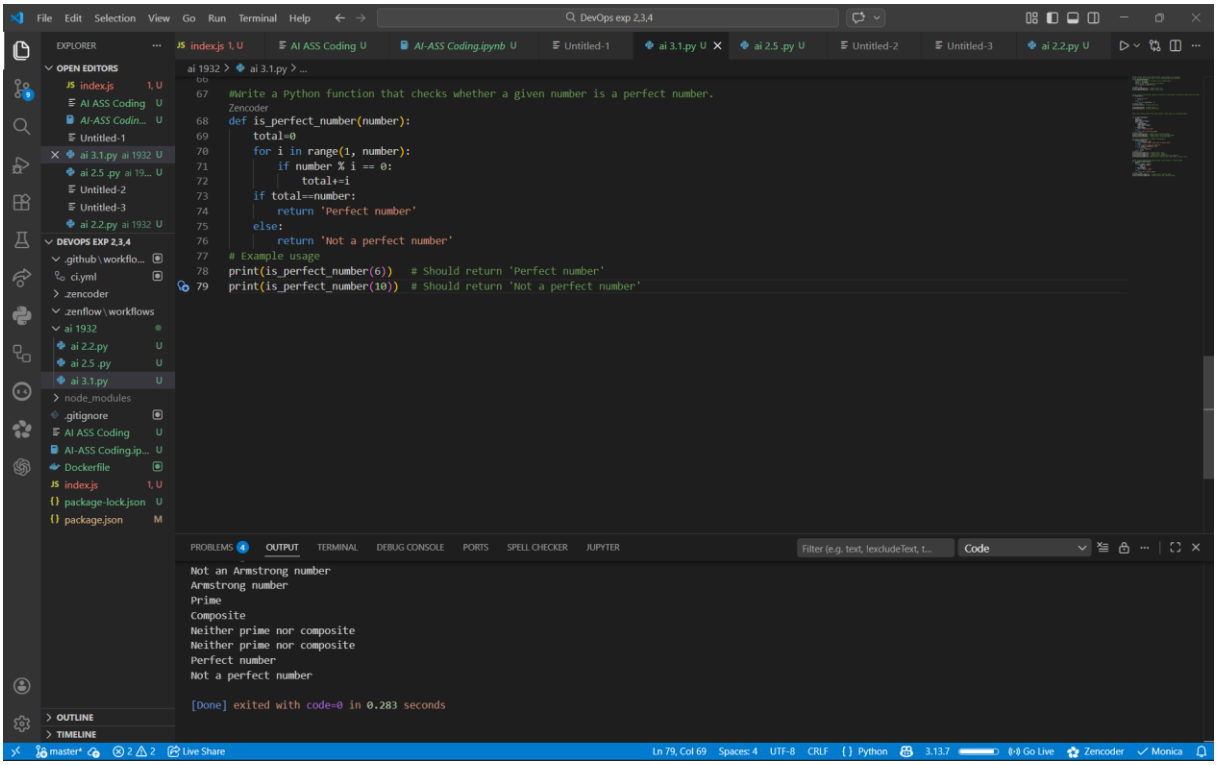
Input: 15 Output:

Odd Example 3:

Input: 0

Output: Even Now write a Python program that determines whether a given number is Even or Odd. The program should include proper input validation and return clear messages.

CODE:



OBSERVATION:

Negative integer are handled correctly Program safely rejected non integer inputs
Improve input handling Clear and consistent output