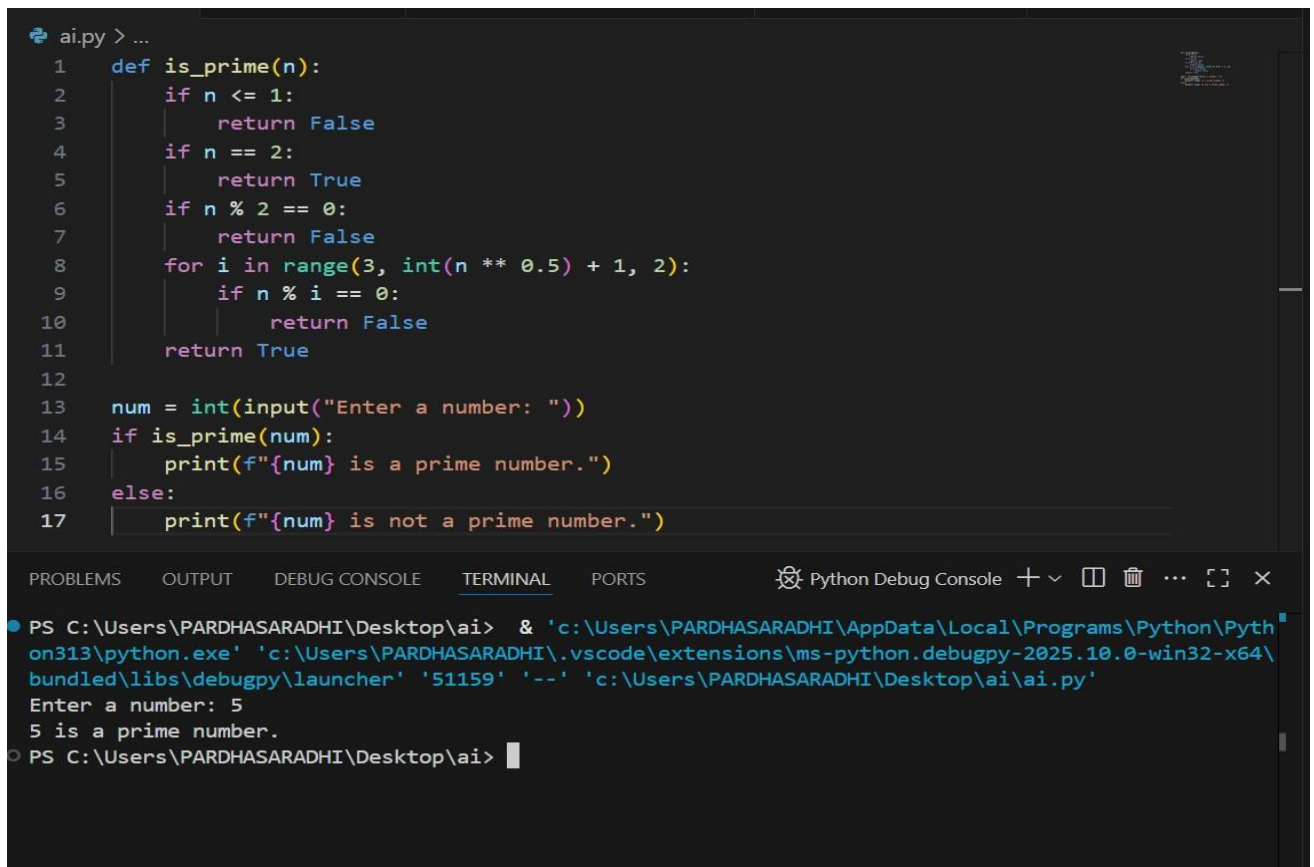# LAB ASSIGNMENT-1

Name : A..Ashish Enrollment_number :
2403A51249 Batch_no : 01

1.Generate a python code to check whether a number is prime or not and take input in dynamic way

2.Generate a python code to reverse a string using function and take input in dynamic way

```python
def reverse_string(s):
    return s[::-1]

user_input = input("Enter a string to reverse: ")
reversed_str = reverse_string(user_input)
print("Reversed string:", reversed_str)
```

task3.py > user_input

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

Python Debug Console

```
PS C:\Users\PARDHASARADHI\Desktop\ai>  & 'c:\Users\PARDHASARADHI\AppData\Local\Programs\Python\Pyth
on313\python.exe' 'c:\Users\PARDHASARADHI\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\
bundled\libs\debugpy\launcher' '50541' '--' 'c:\Users\PARDHASARADHI\Desktop\ai\task3.py'
Enter a string to reverse: madam
Reversed string: madam
PS C:\Users\PARDHASARADHI\Desktop\ai> 
```

3.Generate both recursive and iterative version of a factorial using comments by python program

```python
recursive and iteartive.py > ...
1    # Recursive version of factorial with dynamic input
2    def factorial_recursive(n):
3        if n == 0 or n == 1:
4            return 1
5        else:
6            return n * factorial_recursive(n - 1)
7
8    # Iterative version of factorial with dynamic input
9    def factorial_iterative(n):
10       result = 1
11       for i in range(2, n + 1):
12           result *= i
13       return result
14
15   # Get dynamic input from user
16   num = int(input("Enter a number to calculate its factorial: "))
17
18   print(f"Recursive: Factorial of {num} is {factorial_recursive(num)}")
19   print(f"Iterative: Factorial of {num} is {factorial_iterative(num)}")
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   Python Debug Console + ∨ ⊓ ⯑ ⋯ ⌷ ✕

```
PS C:\Users\PARDHASARADHI\Desktop\ai>  & 'c:\Users\PARDHASARADHI\AppData\Local\Programs\Python\Python313\python.exe' 'c:\Users\PARDHASAR
ADHI\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundled\libs\debugpy\launcher' '51467' '--' 'c:\Users\PARDHASARADHI\Deskto
p\ai\recursive and iteartive.py'
Enter a number to calculate its factorial: 5
Recursive: Factorial of 5 is 120
Iterative: Factorial of 5 is 120
PS C:\Users\PARDHASARADHI\Desktop\ai> |
```

4.Generate a python code to find the largest number in a list and assess code *quality* and efficiency

```python
larget number.py > ...
1    # Python program to find the largest number in a list with dynamic input
2    # Take input from user
3    numbers = input("Enter numbers separated by spaces: ").split()
4    # Convert input strings to integers
5    numbers = [int(num) for num in numbers]
6    # Find and print the largest number
7    if numbers:
8        print("The largest number is:", max(numbers))
9    else:
10       print("No numbers were entered.")
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   Python Debug Console + ∨ ⊓ ⯑ ⋯ ⌷ ✕

```
PS C:\Users\PARDHASARADHI\Desktop\ai>  & 'c:\Users\PARDHASARADHI\AppData\Local\Programs\Python\Pyth
on313\python.exe' 'c:\Users\PARDHASARADHI\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\
bundled\libs\debugpy\launcher' '51521' '--' 'c:\Users\PARDHASARADHI\Desktop\ai\larget number.py'
Enter numbers separated by spaces: 5 7 25 78 55
The largest number is: 78
PS C:\Users\PARDHASARADHI\Desktop\ai> |
```