

# LAB ASSIGNMENT-1.3

Name : G.Sudeeksha

Roll No : 2403A510E0

Batch : 05

Branch : CSE

Subject: AI ASSISTED CODING

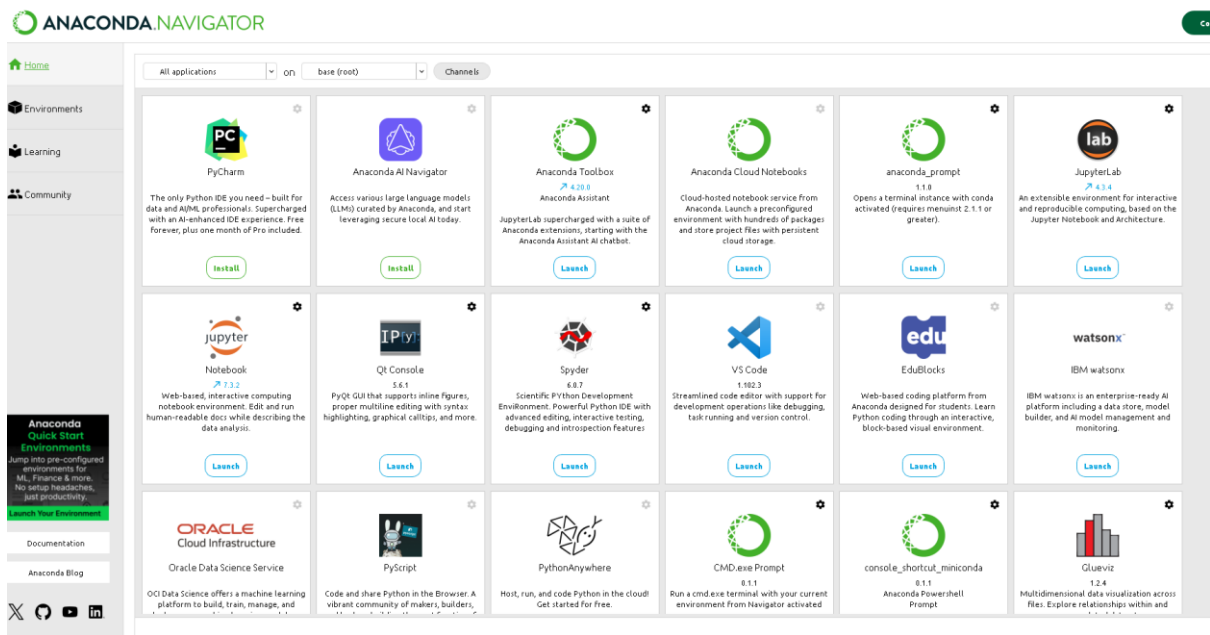
TASK – 01

➤ Prompt: To get the Successful Setup of Copilot

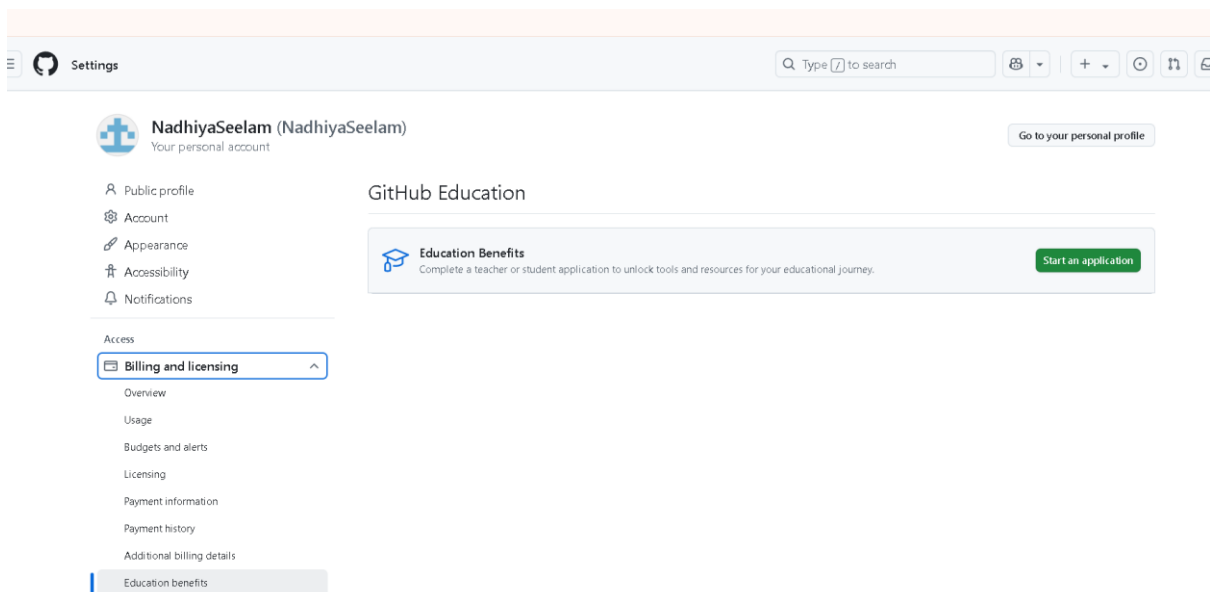
## Screen shot-1

The screenshot displays the Anaconda website's installer page. The header includes the Anaconda logo, navigation links (Products, Solutions, Resources, Company), and buttons for 'Free Download', 'Sign In', and 'Get Demo'. The main content is divided into two columns: 'Distribution Installers' and 'Miniconda Installers'. Both columns feature a 'Download' button and a link to 'troubleshooting'. Under 'Distribution Installers', there are expandable sections for 'Windows' (Python 3.13, 64-Bit Graphical Installer (914M)), 'Mac', and 'Linux'. Similarly, 'Miniconda Installers' has expandable sections for 'Windows', 'Mac', and 'Linux'. A small chatbot window with the text 'Hi, how can I help?' is visible in the bottom right corner.

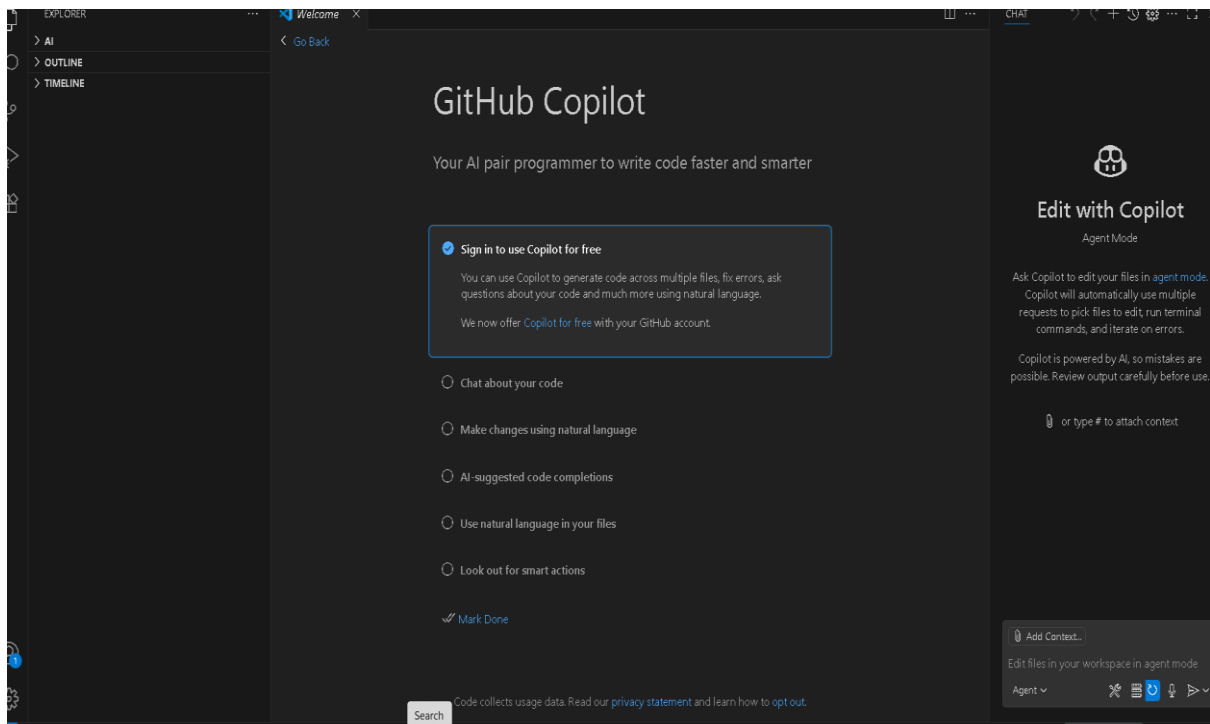
## Screen shot-2



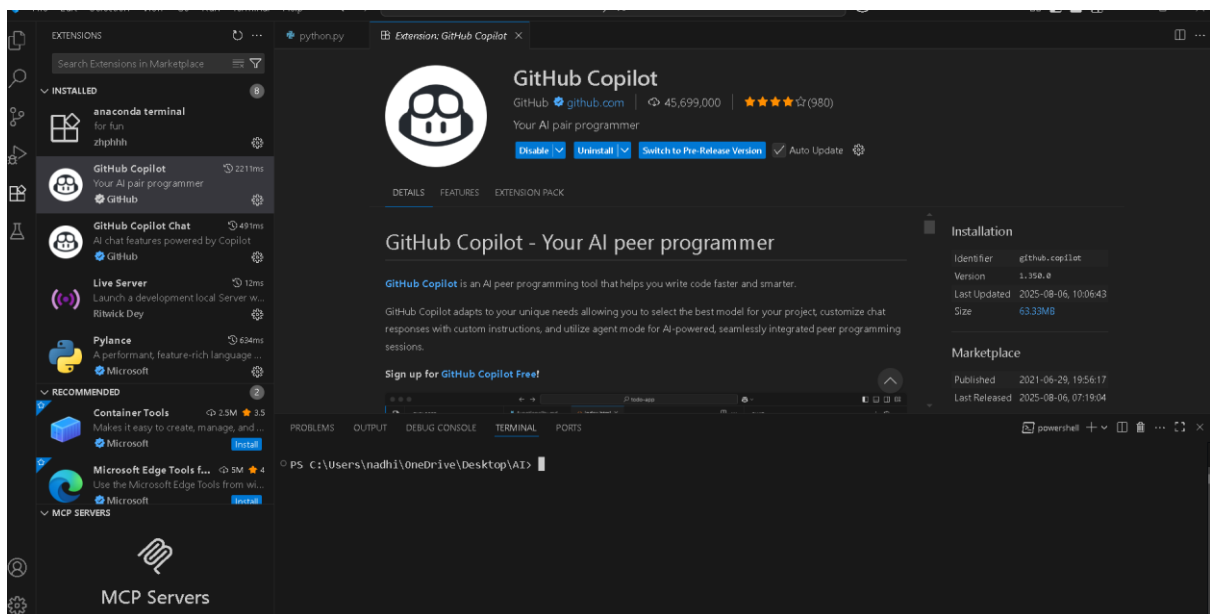
Screen shot-3



Screen shot-4



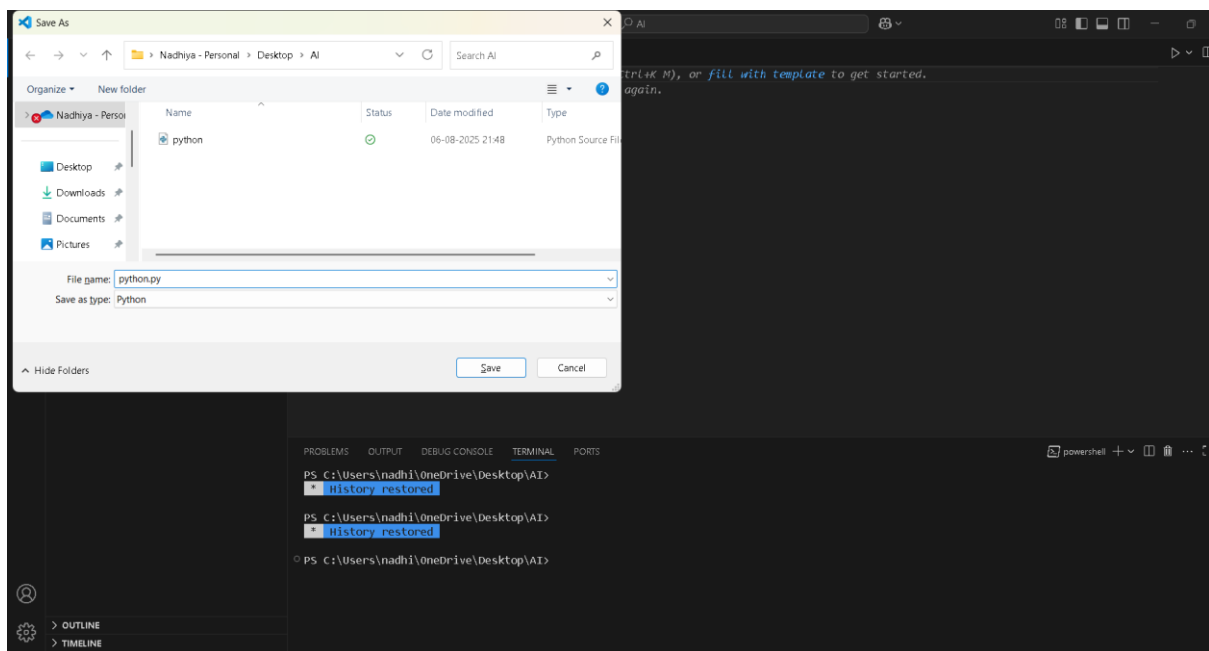
Screen shot-5



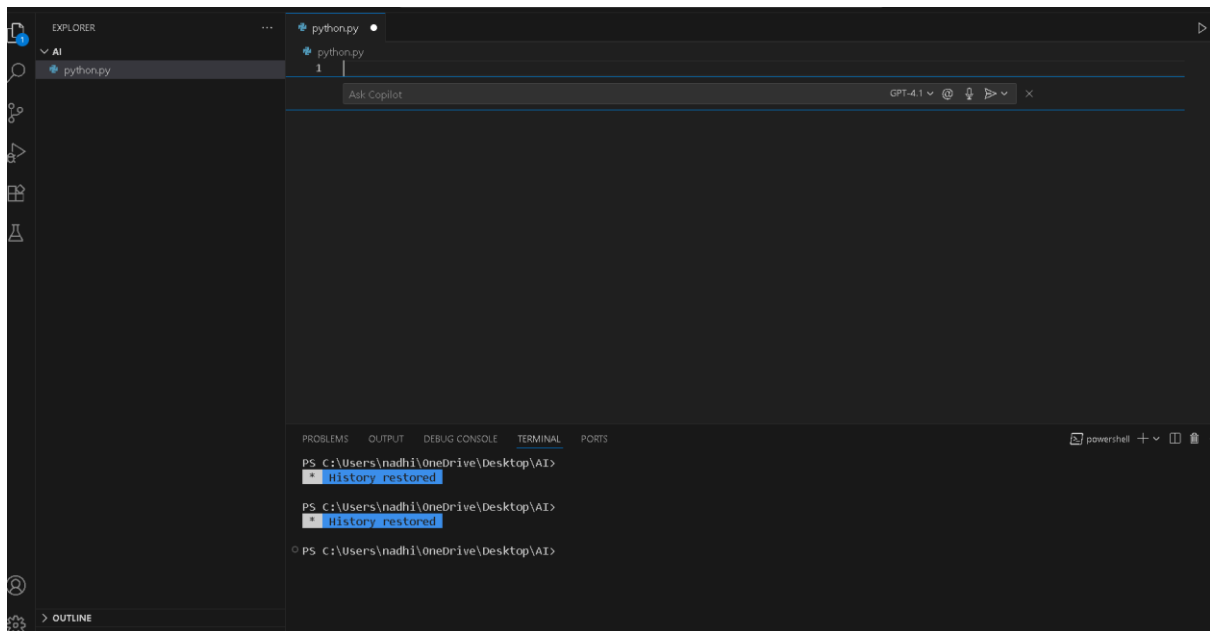
Screen shot-6



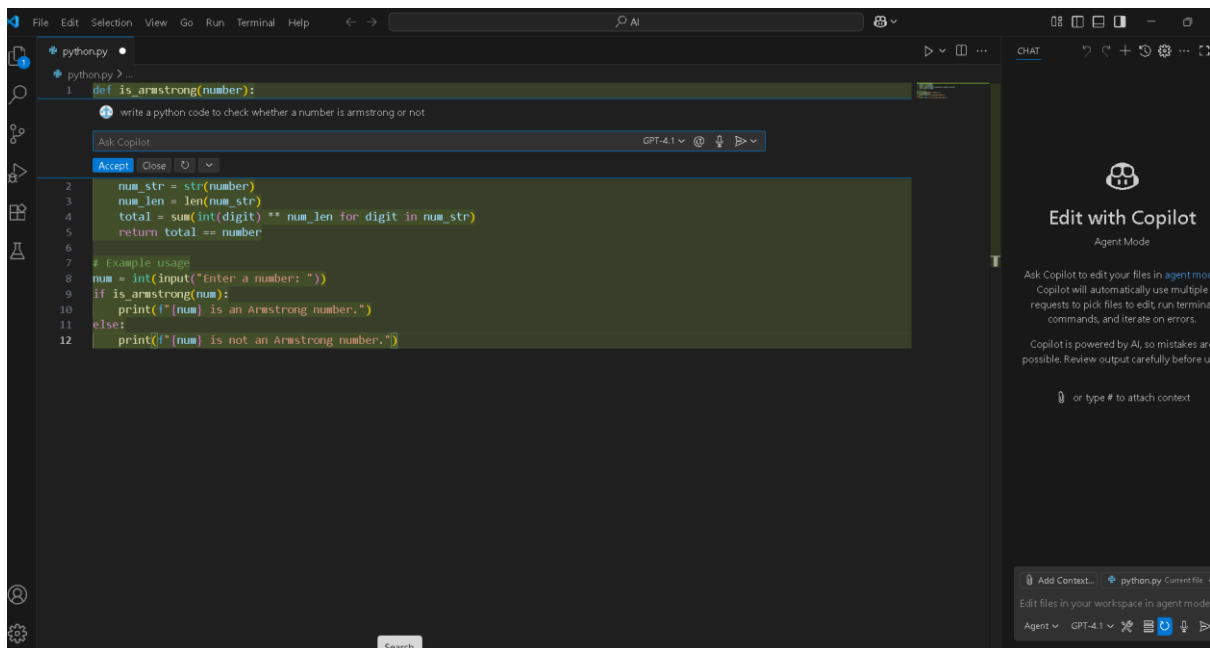
Screen shot-7



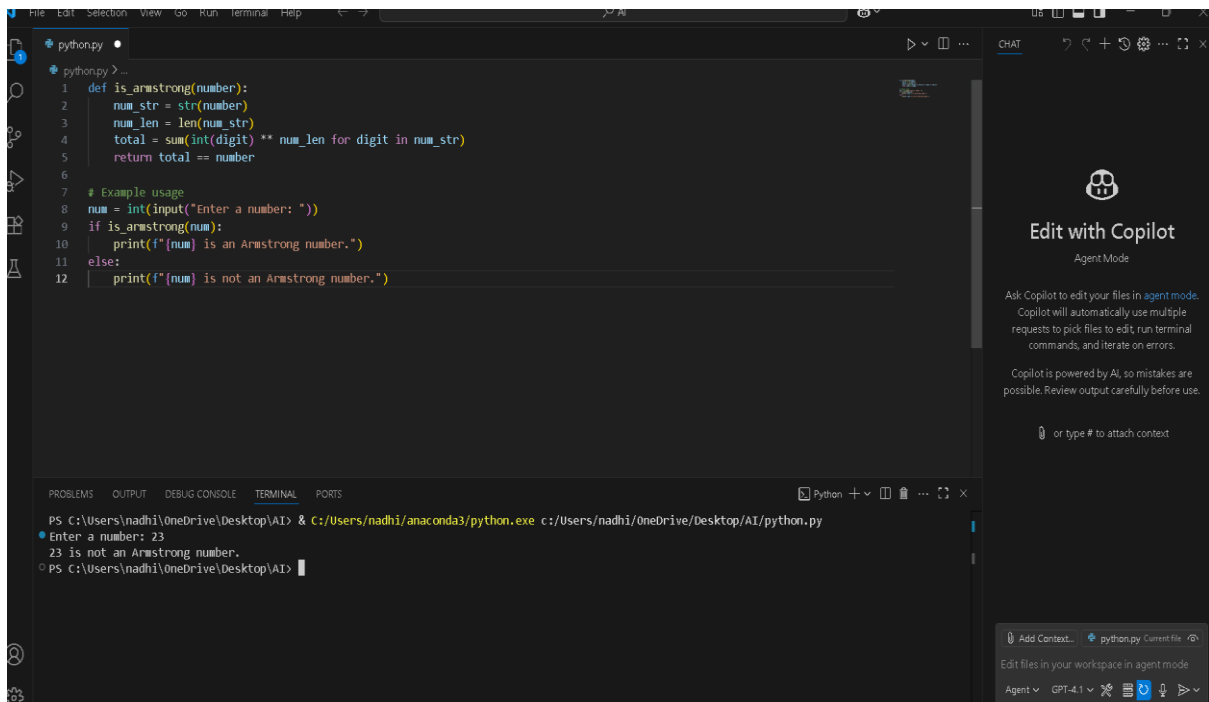
Screen shot-8



Screen shot-9



Screen shot-10



## TASK – 02

- **Prompt :** Write a python code to check whether a number is prime or not.

```
... first_code.html python.py
python.py
1 def is_prime(n):
2     if n <= 1:
3         return False
4     if n == 2:
5         return True
6     if n % 2 == 0:
7         return False
8     for i in range(3, int(n ** 0.5) + 1, 2):
9         if n % i == 0:
10            return False
11    return True
12
13 # Example usage
14 num = int(input("Enter a number: "))
15 if is_prime(num):
16     print(f"{num} is a prime number.")
17 else:
18     print(f"{num} is not a prime number.")
```

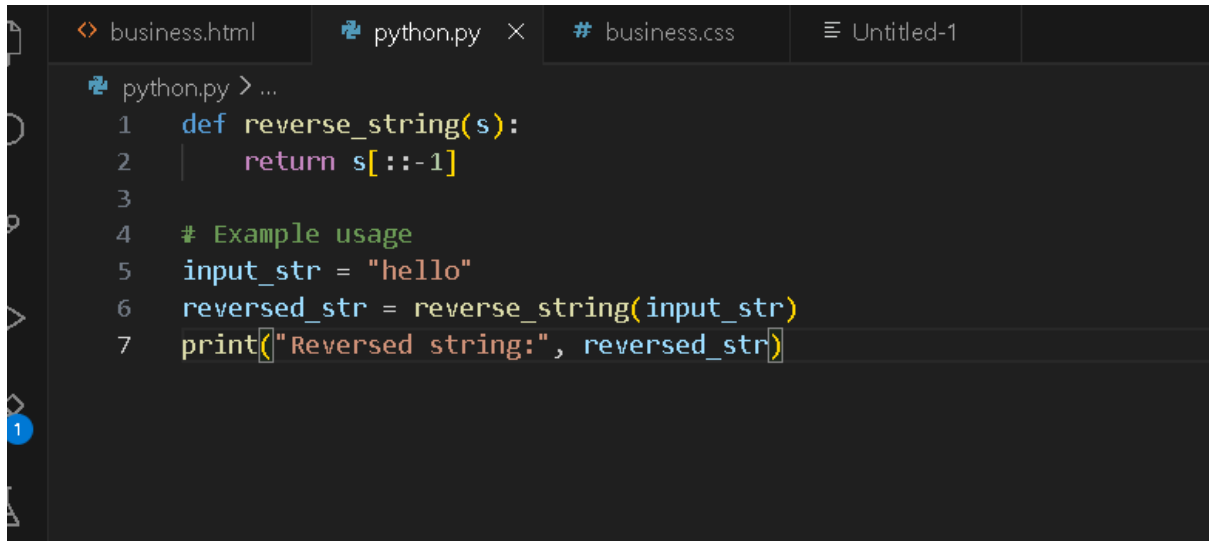
Output: 2 is prime number

### Explanation:

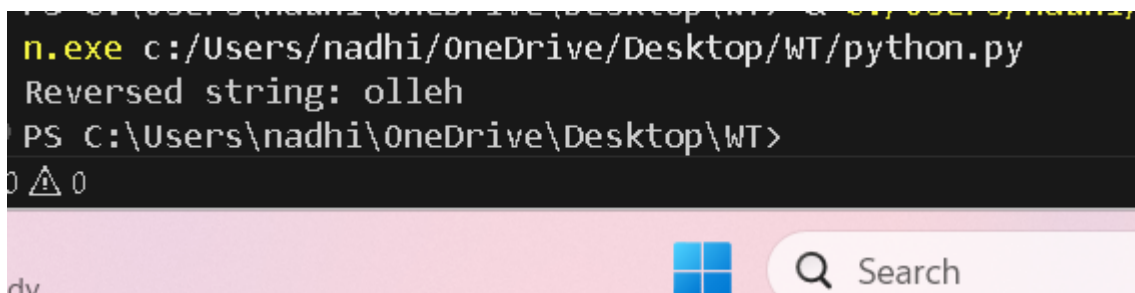
- The code checks if a given number is prime.
- A prime number is a number greater than 1 that has no divisors other than 1 and itself.
- The code usually:
  - Returns False if the number is less than or equal to 1.
  - Loops from 2 up to the square root of the number.
  - If the number is divisible by any of these, it returns False.
  - If no divisors are found, it returns True.

### Task-3:

- Prompt: Write a python code to check Reverse a string function



```
python.py > ...
1  def reverse_string(s):
2      return s[::-1]
3
4  # Example usage
5  input_str = "hello"
6  reversed_str = reverse_string(input_str)
7  print("Reversed string:", reversed_str)
```



```
n.exe c:/Users/nadhi/OneDrive/Desktop/WT/python.py
Reversed string: olleh
PS C:\Users\nadhi\OneDrive\Desktop\WT>
```

### Explanation:

- The function `reverse_string(s)` takes a string `s` as input and returns its reverse using slicing (`s[::-1]`).
- The example usage sets `input_str` to "hello".
- It calls `reverse_string(input_str)`, which returns "olleh", and stores it in `reversed_str`.
- Finally, it prints Reversed string: olleh to the console

### Task-04:

- Prompt: Write a python code for Factorial Function



```

python.py > ...
1  # Recursive version of factorial
2  def factorial_recursive(n):
3      """
4      Calculate factorial of n recursively.
5      """
6      if n == 0 or n == 1:
7          return 1
8      else:
9          return n * factorial_recursive(n - 1)
10
11 # Iterative version of factorial
12 def factorial_iterative(n):
13     """
14     Calculate factorial of n iteratively.
15     """
16     result = 1
17     for i in range(2, n + 1):
18         result *= i
19     return result
20
21 # Example usage
22 if __name__ == "__main__":
23     num = 5
24     print("Recursive:", factorial_recursive(num)) # Output: 120
25     print("Iterative:", factorial_iterative(num)) # Output: 120

```

```

PS C:\Users\nadhi\OneDrive\Desktop\WT> & C:/Users/nadhi/AppData/Local/Programs/Python/Python313/python.exe c:/Users/nadhi/OneDrive/Desktop/WT/python.py
Recursive: 120
Iterative: 120

```

## Explanation:

- This function calculates the factorial of n using recursion.
  - If n is 0 or 1, it returns 1 (base case).
  - Otherwise, it returns n \* factorial\_recursive(n - 1).
- **factorial\_iterative(n):**  
This function calculates the factorial of n using a loop.
  - It initializes result to 1.
  - Then multiplies result by each number from 2 up to n.
- **Example usage:**
  - If the script is run directly, it sets num = 5.
  - It prints the factorial of 5 using both the recursive and iterative functions.

- Both methods output 120.

### Task-05:

- Prompt: Write a python code to check the given number is the largest number

```
business.html python.py # business.css Untitled-1
python.py > ...
1 def find_largest(numbers):
2     if not numbers:
3         return None # Return None if the list is empty
4     largest = numbers[0]
5     for num in numbers[1:]:
6         if num > largest:
7             largest = num
8     return largest
9
10 # Example usage
11 nums = [3, 7, 2, 9, 4]
12 print("Largest number:", find_largest(nums))
```

```
PS C:\Users\nadhi\OneDrive\Desktop\WT> & C:/Users/nadhi/AppData/Local/Programs/Python/Python313/python.exe c:/Users/nadhi/OneDrive/Desktop/WT/py
thon.py
Largest number: 9
PS C:\Users\nadhi\OneDrive\Desktop\WT>
```

### Explanation:

- **find\_largest(numbers):**  
This function takes a list of numbers and returns the largest value.
  - If the list is empty, it returns None.
  - It starts by assuming the first number is the largest.
  - It then loops through the rest of the list, updating largest if it finds a bigger number.
  - Finally, it returns the largest number found.

- **Example usage:**

- A list `nums = [3, 7, 2, 9, 4]` is defined.
- The function is called with this list, and the result is printed.
- Output: Largest number: 9