Experiment No: 6 - Prime Numbers Within a Range with Display Limit Using User-Defined Function

Aim

To design and implement a Python program to print prime numbers within a given range, **up to a specified maximum number of primes**, using a **user-defined function**.

Problem Statement

Write a Python program that performs the following:

1. Accept **two integers** from the user: start and end of the range.
2. Accept a **limit `L`** which specifies the **maximum number of prime numbers** to display.
3. Define a function `is_prime(n)` that returns `True` if `n` is prime, otherwise `False`.
4. Use the function to identify prime numbers within the range.
5. Print **only up to `L` prime numbers** in sequence.

Input

- Start of range (`start`)
- End of range (`end`)
- Maximum number of primes to display (`L`)

Output

- List of prime numbers within the given range (up to the specified limit)

Concepts Used

- User-defined functions (`def`)
- Conditional statements (`if`, `else`)
- Loops (`for` or `while`)
- Counter to enforce display limit
- Input/output statements

Result

Thus, a Python program using a **user-defined function** was successfully designed and implemented to print prime numbers within a range **up to a specified limit**.

Sample Input

```
Enter start of range: 10
Enter end of range: 50
Enter maximum number of primes to display: 5
```

Sample Output

```
Prime numbers between 10 and 50 (maximum 5 primes):
11 13 17 19 23
```