➢ Object Oriented Programming

Lab 1

Task – 1:

Writing a Python function to determine whether a given number is prime or not. The program has the following features:

• Implement a function called is prime (number) which takes an integer parameter number and returns True if the number is prime, and False otherwise.

• Use an if-else statement inside the is_prime () function to check if the given number is divisible by any integer from 2 to the square root of the number. If it is divisible, return False; otherwise, return True.

• Implement a loop to repeatedly ask the user to enter a number. Inside the loop, call the is_prime () function to determine whether the entered number is prime or not.

• Print an appropriate message indicating whether the number is prime or not.

```python
import math

def is_prime(number):
  """
  This function determines whether a given number is prime or not.

  Args:
    number: An integer to check for primality.

  Returns:
    True if the number is prime, False otherwise.
  """
  if number <= 1:
    return False
  for i in range(2, int(math.sqrt(number)) + 1):
    if number % i == 0:
      return False
  return True

while True:
  number = int(input("Enter a number (or -1 to quit): "))
  if number == -1:
    break
  if is_prime(number):
    print(f"{number} is a prime number.")
  else:
    print(f"{number} is not a prime number.")
```

```
Enter a number (or -1 to quit): 7
7 is a prime number.
Enter a number (or -1 to quit): 6
6 is not a prime number.
Enter a number (or -1 to quit): -1
```