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Section : 2A

Semester : 2nd

Task = 01

**Write a Python function to determine whether a given number is prime or not. Your program should have 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

**CODE**

import math

def is\_prime(num):

    if num <= 1:

        return False

    for i in range(2, int(math.sqrt(num)) + 1):

        if num % i == 0:

            return False

    return True

while True:

    user\_input = input("Enter a number (or type 'exit' to quit): ")

    if user\_input.lower() == 'exit':

        print("Goodbye!")

        break

    try:

        num = int(user\_input)

        if is\_prime(num):

            print(f"{num} is a prime number.")

        else:

            print(f"{num} is not a prime number.")

    except ValueError:

        print("Please enter a valid integer.")