Object Oriented Programming (LAB)

Lab Task No 1

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Question No:1

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:

```
class Is_prime:


    def is_prime(self, number):

        if number <= 1:

            return False
```

```python
        for i in range(2, int(number ** 0.5) + 1):
            if number % i == 0:
                return False
        return True

    def main(self):



            num = int(input("Enter a number (enter 0 to exit): "))
            if num == 0:
                print("Exiting the program...")
                break
            if self.is_prime(num):
                print(f"{num} is a prime number.")
            else:
                print(f"{num} is not a prime number.")



obj = Is_prime()
obj.main()
```