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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 determine\_prime\_status(num\_to\_check):

if num\_to\_check <= 1:

return False

for potential\_divisor in range(2, int(math.sqrt(num\_to\_check)) + 1):

if num\_to\_check % potential\_divisor == 0:

return False

return True

while True:

input\_value = input("Please enter a number (or type 'exit' to quit): ")

if input\_value.lower() == 'exit':

print("Exiting the program. Goodbye!")

break

try:

number = int(input\_value)

if determine\_prime\_status(number):

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

else:

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

except ValueError:

print("Invalid input. Please enter a valid integer.")