Metropolitan State University, Saint Paul, Minnesota

ICS 140 Computational Thinking with Programming

Assignment 8

For the problem below, complete the following steps:

* Create test cases with expected results based on example input
* Create Python Code
* Show Test Results

**Prime Numbers**

A prime number is a number that is only evenly divisible by itself and 1. For example, the number 7 is prime because it can only be evenly divided by 1 and 7. The number 8, however is not a prime number because it can be divided by 1, 2, 4, and 8.

Write a Boolean function named **is\_prime**() which takes an integer as an argument and returns true if the argument is a prime number, or false otherwise. Use the function in a program that prompts the user to enter a number then displays a message indicating whether the number is prime.

**Test Case 1**

**Example Input**

7

**Expected Result:**

Prime number

**Actual Result**

Prime number

**Test Case 2**

**Example Input**

30

**Expected Result:**

Not prime

**Actual Result**

Not Prime

Examples:

def isPrime(*num*):

multiples = []

*for* i *in* range(1, *num* + 1):

*if* *num* % i == 0:

multiples.append(i)

*if* len(multiples) > 2:

print(f"{user\_input} is not a prime number, it is divisible by : {multiples}")

*else*:

print(f"{user\_input}is a prime number")

user\_input = int(input("Please enter a number : "))

isPrime(user\_input)

Text

Description automatically generated