

Credit Name: CSE2140 2nd Language Programming

Assignment Name: Prime Number Mastery

How has your program changed from planning to coding to now? Please explain?

Created a method that will return a boolean with the user's number as the parameters. Declared and initialized the counter (prime) as int and as the user's number.

```
public static boolean isPrime(int userNum) {  
    //Declaration and initialization area  
    int prime = userNum;
```

Used a while loop to check if userNum is prime. Loop will continue while prime is greater than 0. Each time it loops, subtract 1 from prime. If userNum divided by prime has a remainder that is not 0, repeat the above (subtract 1 from prime) until the remainder is not 0. If prime is equal to 1, return true. Else break out of the loop and return false.

```
    //Checks if the user input is a prime number  
    while (prime > 0) {  
        prime --;  
        if (userNum % prime != 0) {  
            continue;  
        }  
        else if (prime == 1) {  
            return (true);  
        }  
        else {  
            break;  
        }  
    }  
}
```

```
//Returns false if the number is not prime  
return (false);
```

In the main method, I declared the variable type as int as we are dealing with numbers.

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    //Declaration area  
    int userNum;
```

Prepared for user to input an answer.

```
//Preparing for user input  
Scanner userInput = new Scanner(System.in);
```

Prompted user to enter an integer and initialized it under the variable userNum.

```
//Prompt user to input an integer and initialize variables  
System.out.print("Please enter an integer: ");  
userNum = userInput.nextInt();
```

If the boolean method returns true, display that the number is prime. Else, display that the number is not prime.

```
//Displays if the number is prime depending if the method returns true or not  
if (isPrime(userNum) == true) {  
    System.out.print(userNum + " is a prime number.");  
}  
else {  
    System.out.print(userNum + " is not a prime number.");  
}
```