Mastery PrimeNumber Reflection Log

Credit Name: CSE2140 2nd Language Programming
Assignment Name: Mastery PrimeNumber

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

From planning to coding not much changed. I still prompted the user for a prime number and then did the calculation with modulo to determine if the number was prime or not (along with the for loop). The big difference was adding the boolean variable primecheck, and making the print statement with ? and : to eliminate the need for an if-else statement. Also the code was more complex than what was written in the IPO chart.

From coding to now the difference I made was adding “you want to know is prime or not” to the end of the user prompt.

Steps

Start off with the standard code

```
package Mastery;
import java.text.DecimalFormat;
import java.util.Scanner;
public class Primenumbers {
 public static void main(String[] args) {

  Scanner input = new Scanner(System.in);
```

Next, I prompted the user to enter a number they want to know is prime or not. The integer variable number is equal to the number they input.

```
  System.out.print("Enter a number you want to know is prime or not: ");
  int number = input.nextInt();
```

After I add a boolean variable called primecheck, and have it automatically set to true

```
boolean primecheck = true;
```

Next, I created the for loop, first, we set the loop to deal with integer values, and i = 2. The next part of this loop checks if i is less than the imputed number and if primecheck is still true. If all of this is true then the program adds 1 to i. (primecheck is equal to the inputted number % i != 0, this checks if the number’s remainder divided by i’s value is not equal to 0. If it isn’t then this loop will end, but if it is then it will go back through the loop until it finds a number that leaves a remainder that’s not 0 or finds that the number is prime.) (note that if i becomes equal to the number inputted then we know the number is prime because the loop has gone through all numbers up to this number (a prime number is a number that doesn't leave a remainder only when divided by itself and 1))

```
for (int i = 2; i < number && primecheck; i++) {
      primecheck = (number % i != 0);
  }
```

Next, I created a print statement that first printed the inputted number and then checks if primecheck is true or false, the ? along with : serves as an if-else statement (it's a super useful thing I found while searching the web), if primecheck is true then it will print "is a prime number." but if it's false it will print "is not a prime number." (the true and false statements are separated by the :)
This link explains what the ? and : do.⬇⬇⬇
https://www.freecodecamp.org/news/how-the-question-mark-works-in-javascript/

```
System.out.println(number + (primecheck ? " is a prime number." : " is not a prime number."));
```

Lastly, I finished off with some braces.

```
        }
}
```