

ReflectionLog: PrimeNumber

Youdis

```
package Mastery;

import java.util.Scanner;

public class PrimeNumber {

    //method to check if number in parameter is a prime number
    public static Boolean isPrime(int userNum) {
        // initializing variable that will record whether number entered is prime or not
        boolean prime = true;
        //checking if number is 1 or 0 as these won't work in for loop as they are lower than 2
        if (userNum == 0 || userNum == 1) {
            //if 1 or 0 then set prime as false
            prime = false;}
    }
```

Making a method which takes a parameter of a single number, the parameter will check if the number given is prime or not. Will first start by initialization of a variable which at the end will reflect whether the number is prime or not. First checking to see if the number is 1 or 0, if then it is a prime number and the previously set variable, prime, will be set to false.

```
    // for loop to divide number entered by every number from 2 to half of the number
    for (int i = 2; i <= (userNum/2); i++) {
        // checking if number is fully divisible
        if (userNum % i == 0) {
            // if it is fully divisible by a number then set prime to false
            prime = false;}
    }
    return prime;
```

If the number is not 0 or 1 then it will enter a for loop where it will be divided by every number from 2 to half of the number given. If it is divisible any of those numbers then the variable prime will be set to false. After the loop is finished the boolean value for prime will be returned.

```
    public static void main(String[] args) {
        // TODO Auto-generated method stub
        //creating new scanner to record user input
        Scanner Input = new Scanner(System.in);
        //prompt user to enter a number
        System.out.print("Please enter a number: ");
        //record number entered
        int userNum = Input.nextInt();
    }
```

Create a new scanner object to record inputs. Prompt users to enter a number to check if it's prime or not. Number entered is then recorded.

```
//checking if number entered is prime
if (isPrime(userNum)) {
// if prime is true then number was a prime number and will output that to user
System.out.print(userNum + " is a prime number");}
// if prime is false then number was not a prime number and will output that to user
else {System.out.print(userNum + " is not a prime number");
}
```

Enter number recorded from before as a parameter for previously made method then will call method and use if statement on the return value. If the return value is false then the system will output the number entered saying it is not prime. If the return value is true then the system will output the number entered saying that is a prime number.