

## NumberChecker.java

```
/*
 * Class: NumberChecker
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 * Date: August 30, 2018
 */

import java.awt.*;
import BreezyGUI.*;

public class NumberChecker extends GBFrame
{
    // Instance Variables (the window components)
    private Label inputFieldLabel;
    private IntegerField inputField;
    private Button isPrimeButton;
    private TextArea outputArea;
    private TextArea primeArea;
    private Button primeButton;
    private IntegerField primeField;
    private Label primeLabel;
    private Button clearButton;

    public NumberChecker()
    {
        inputFieldLabel = addLabel("Number to Check",1,1,1,1);
        inputField = addIntegerField(0,1,2,1,1);
        isPrimeButton = addButton("Is Prime?",2,1,1,1);
        outputArea = addTextArea("",3,1,3,3);
        primeButton = addButton("Factor",2,2,1,1);
        clearButton = addButton("Clear",2,3,1,1);
    }

    public void buttonClicked(Button buttonObj)
    {
        if(buttonObj == isPrimeButton)
        {
            int n = inputField.getNumber();
            if(isPrime(n) == true)
            {
                outputArea.append(n + " Is Prime");
            }
        }
    }
}
```

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```
        else if(isPrime(n) == false)
        {
            outputArea.append(n + " is not Prime");
        }
    }
    if(buttonObj == primeButton)
    {
        int n = inputField.getNumber();

        for(int i = 2; isPrime(n) == false; i = i + 1)
        {
            while(isPrime(n) == false)
            {
                outputArea.append("2 * ");
                n = n/i;
            }
        }

        if(isPrime(n) == true)
        {
            outputArea.append(n + " Is the Factorization");
        }
    }

    if(buttonObj == clearButton)
    {
        outputArea.append("");
    }

}

public boolean isPrime(int n)
{
    if(n < 2)
    {
        return false;
    }
}
```

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```
    if( n == 2)
    {
        return true;
    }
    System.out.println(n);
    if (n % 2 == 0)
    {
        return false;
    }
    for(int i = 3; i*i<=n;i = i + 2)
    {
        if(n%i==0)
            return false;
    }
    return true;
}

public static void main(String[] args)
{
    NumberChecker frm = new NumberChecker();
    frm.setSize(350,350);
    frm.setVisible(true);
}
}
```