

Gawun Kim

Professor Macias

May 25 2018

CSE223

Parter : Ryan Paulos, Deboye Sakho

Recognition of pushing button.

In this lab, we built up a circuit which was consisted of the Raspberry Pi and the button. The button was connected with pin 14 and pin 16 from the Raspberry Pi. The circuit connection would be decided if user pushed the button; the circuit would keep disconnection until the button is dealt with. We set up the program that would be able to recognize the button's pushing or not. Also, the program will be able to interact with user by sending output to show connection; it counted the number of pushing the button. However, when we pushed the button multiple times and for a short time, the computer did not recognize this case precisely; so that we inserted some lines for fixing this problem by using "System.currentTimeMillis()". It is for restriction of the time of the button and it increased the precision.

We used the below command line to compile the program.

```
javac -cp ./opt/pi4j/lib/pi4j-core.jar Lab4.java
```

We used the below command line to run the compiled program.

```
java -cp ./opt/pi4j/lib/pi4j-core.jar Lab4
```

```
import com.pi4j.wiringpi.*;
import com.pi4j.io.gpio.*;
import java.util.*;

public class Lab4{
    public static void main(String[] args){
        System.out.println("It is working well");
        GpioController gpio=GpioFactory.getInstance();
        GpioPinDigitalInput pin=gpio.provisionDigitalInputPin(RaspiPin.GPIO_04);
        Gpio.pullUpDnControl(4,Gpio.PUD_UP);
        int counter = 0;
        int state = 1;
        double delta = 0;      // initialized value
```

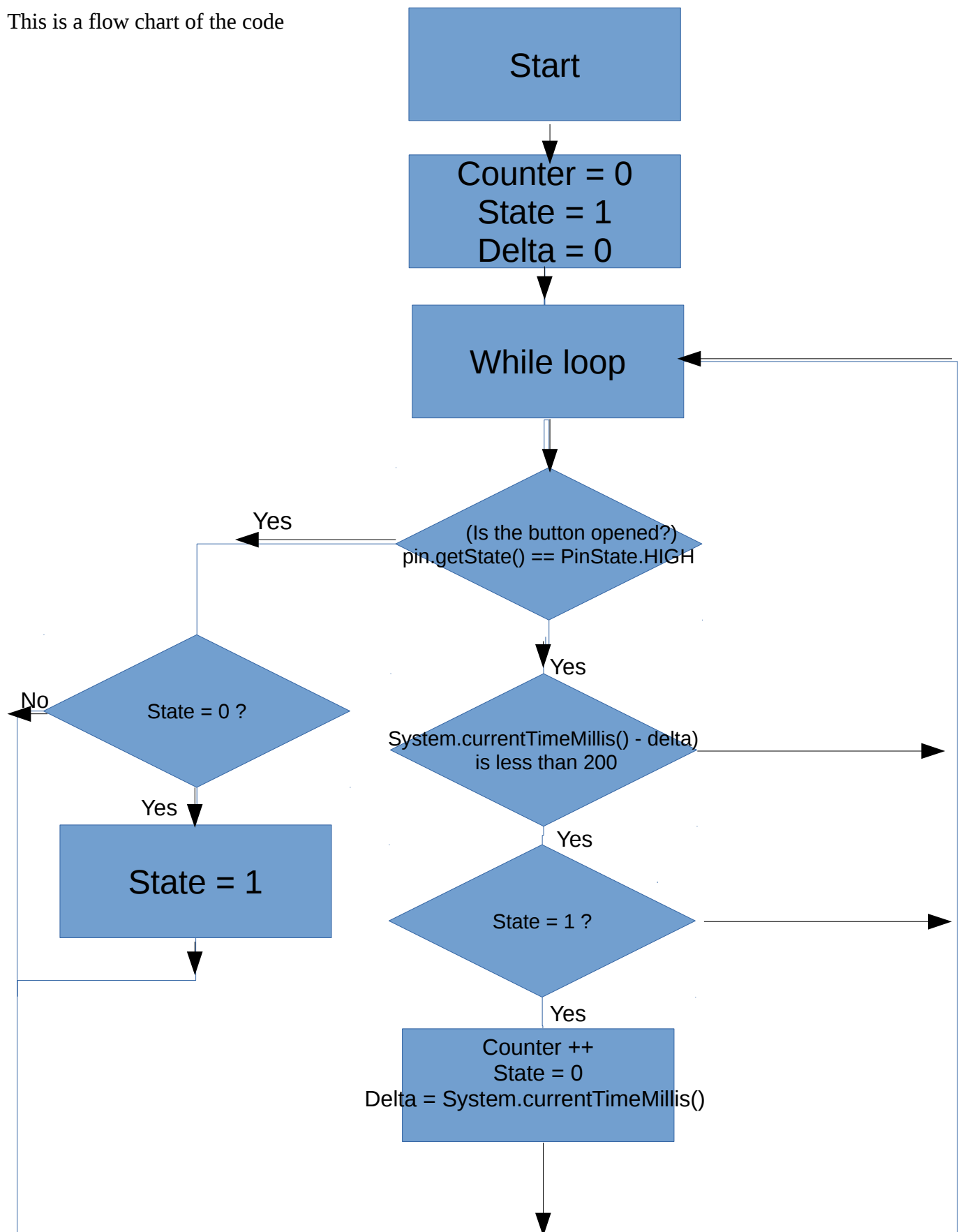
```

while(true){
    if (pin.getState() == PinState.HIGH){
        if(state == 0){
            state = 1;
        }
    }else{
        if((System.currentTimeMillis() - delta) > 200){ // This line is restricting the time for the button
            if(state == 1){
                counter++;
                state = 0;
                System.out.println("button pressed");
                System.out.println("Button has been pressed " + counter + " times");
                delta = System.currentTimeMillis(); // re-define the value of "data"
                System.out.println(delta); // and put it as an output to check
            }
        }
    }
} // The end of the while loop
} // The end of public static void main(String[] args)
}

```

The above box is the code for the program.

This is a flow chart of the code



code/circuit worked correctly. A sign-off area is included in this write-up. Print that out, have it signed, and include a copy of it in your submitted report.

LAB 4 SIGN-OFF

Group Number: 514

Date: 22/May/2018

Group Members: Deboye 9
Ryan
Gigwin Kim

Experiment:

1. Program prints at least one message each time the button is pressed
2. Reported count of number of presses *increases* (possibly by more than 1) following each button press
3. **BONUS** Count increments by exactly one after each button press, increasing by exactly 10 after 10 rapid button presses.

Witness: Nego