BUILD A THERMOSTATE Reflection LOG

```
import com.phidget22.DigitalInput;
import com.phidget22.DigitalOutput;
import com.phidget22.TemperatureSensor;

public class BuildThermo {

    public static void main(String[] args) throws Exception{


          DigitalInput redButtons = new DigitalInput();
          DigitalOutput redLEDs = new DigitalOutput();
          DigitalInput greenButtons = new DigitalInput();
          DigitalOutput greenLEDs = new DigitalOutput();
          TemperatureSensor tempSensor = new TemperatureSensor();


          redButtons.setHubPort(0);
          redButtons.setIsHubPortDevice(true);
          redLEDs.setHubPort(1);
          redLEDs.setIsHubPortDevice(true);
          greenButtons.setHubPort(5);
          greenButtons.setIsHubPortDevice(true);
          greenLEDs.setHubPort(4);
          greenLEDs.setIsHubPortDevice(true);


          redButtons.open(1000);
          redLEDs.open(1000);
          greenButtons.open(1000);
          greenLEDs.open(1000);
          tempSensor.open(1000);
```

```
int Temp = 21; //set temp variable

double CurrentTemp = tempSensor.getTemperature(); //current temp variable

  while (true) {

      for (int i = 0; i <100; i++) {


  if (greenButtons.getState()) {
      Temp++;
       System.out.println("The temperature has been increased to: "+ Temp + "°C");
       while (greenButtons.getState()) {
              Thread.sleep(10);
          }
  }

  if (redButtons.getState()) {
      Temp--;
      System.out.println("The temperature has been decreased to: "+ Temp + "°C");
      while (redButtons.getState()) {
          Thread.sleep(10);
      }
  }



  if (Math.abs(CurrentTemp - Temp) <= 2) {
       greenLEDs.setState(true);
       redLEDs.setState(false);
  }
  else {
      greenLEDs.setState(false);
       redLEDs.setState(true);
  }
      Thread.sleep(100);
      }

  System.out.println("The current temperature is: " + CurrentTemp + "°C");
  System.out.println("The temperature that has been set is: "+ Temp + "°C");
```

I copy pasted some code from past lessons and imported it along with creating the necessary objects to allow for the program to interact with the phidget. I declared a variable for the set temperature which starts at 21 and the current temperature which is the same temperature as the room. The for loop is there to allow me to change the temperature which it initially wouldn't have within 10 seconds without this for loop. When the green button is pressed it adds a value of 1 to the temperature, and if the red button is pressed the temperature decreases by 1. The code also has a sleep time of 10ms to stop any invalid button presses when a button is pressed. In the later if statement, I take the room temperature (CurrentTemp) subtract it from the user's set temperature (Temp), and check if that is less than or equal to 2. If it is, then the green LED turns on, otherwise the red LED turns on. Then the code just prints out the current and sets the temperature.