Wireless Sensor Networks

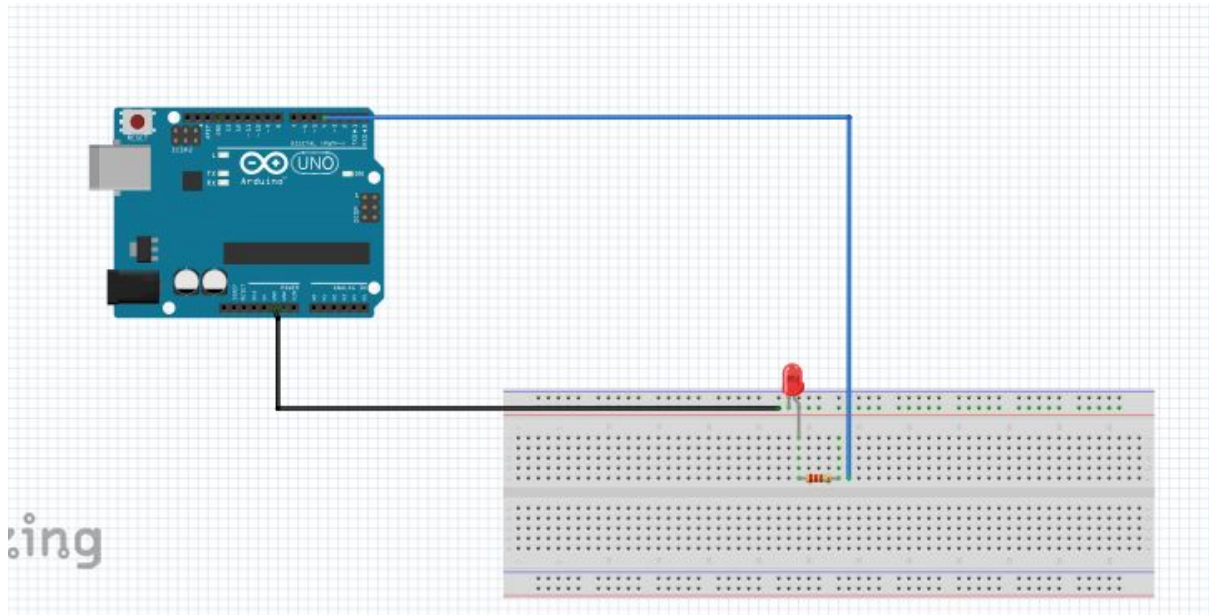**Arduino Lab Submission**

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Circuit Diagram

Arduino Code
```
void setup() {
//        pinMode(6, OUTPUT);
//  pinMode(9, OUTPUT);
  pinMode(3, OUTPUT);
  // put your setup code here, to run once:
  Serial.begin(9600);
}
int value=0;
void loop() {
  // put your main code here, to run repeatedly:
  if(Serial.available() > 0)
  {
        value = Serial.read();
        Serial.print(value);
        analogWrite(3,(255/9)*(value-48));
        delay(20);
  }
}
```

Processing Code

```
import processing.serial.*;
import java.lang.Integer.*;
Serial myPort;  // Create object from Serial class
int val;            // Data received from the serial port
int rectX, rectY;          // Position of square button
int rectSize = 90;          // Diameter of rect
color rectColor, baseColor;
color rectHighlight, circleHighlight;
color currentColor;
boolean rectOver = false;
PFont f;
void setup() {
  size(640, 360);
  rectColor = color(0);
  rectHighlight = color(51);
  //baseColor = color(102);
  currentColor = baseColor;
  rectX = 500;
  rectY = 50;
  ellipseMode(CENTER);
  myPort = new Serial(this, "COM7", 9600);
}
void draw() {
  update(mouseX, mouseY);
  background(currentColor);

  if (rectOver) {
          fill(rectHighlight);
  } else {
          fill(rectColor);
  }
  stroke(255);
  rect(rectX, rectY, rectSize, rectSize);

  rect(100, rectY, rectSize*3, rectSize);
  fill(255);
  //text("THIS TEXT",140,rectY+40,100,100);

  text(realDC,240,200,100,100);
  text(dcOut,140,rectY+40,100,100);
}
String dcOut="",realDC="DC = ";
void update(int x, int y) {
if ( overRect(rectX, rectY, rectSize, rectSize) ) {
          rectOver = true;
  } else {
          rectOver = false;
  }
}
void mousePressed() {
```

```
  if (rectOver) {
        realDC = "DC = "+(inputValue*255/9-85);
        myPort.write(inputValue*255/9);
  }
}
int inputValue;
void keyPressed() {
  if (key >= '0' && key <= '9') {
        inputValue = Integer.parseInt(key+"") + 2;
  }

  dcOut = ""+(inputValue-2);
}
boolean overRect(int x, int y, int width, int height) {
  if (mouseX >= x && mouseX <= x+width && mouseY >= y && mouseY <= y+height) {
        return true;
  } else {
        return false;
  }
}
```

Screenshot