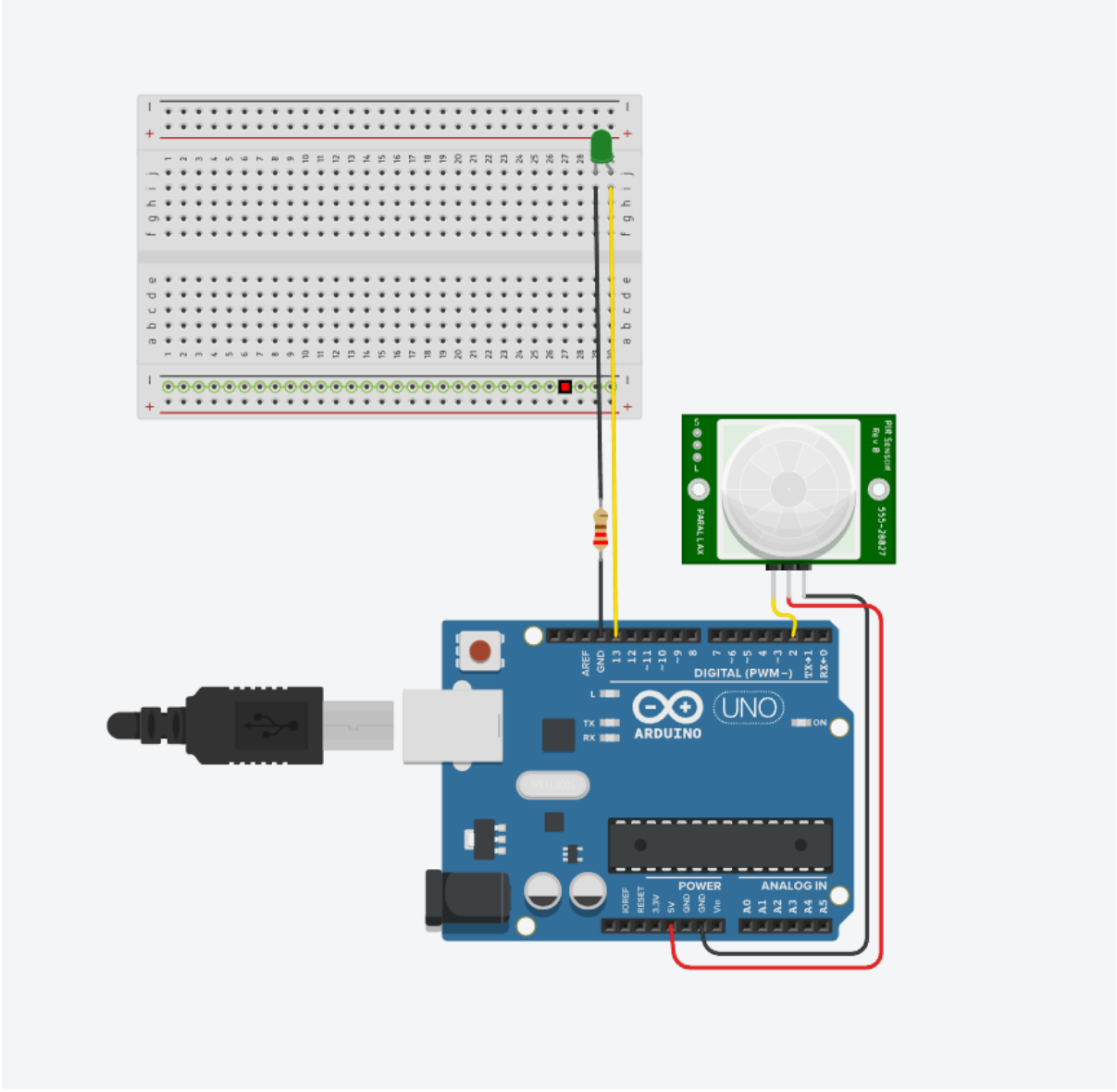
SIT315 Programming Paradigms

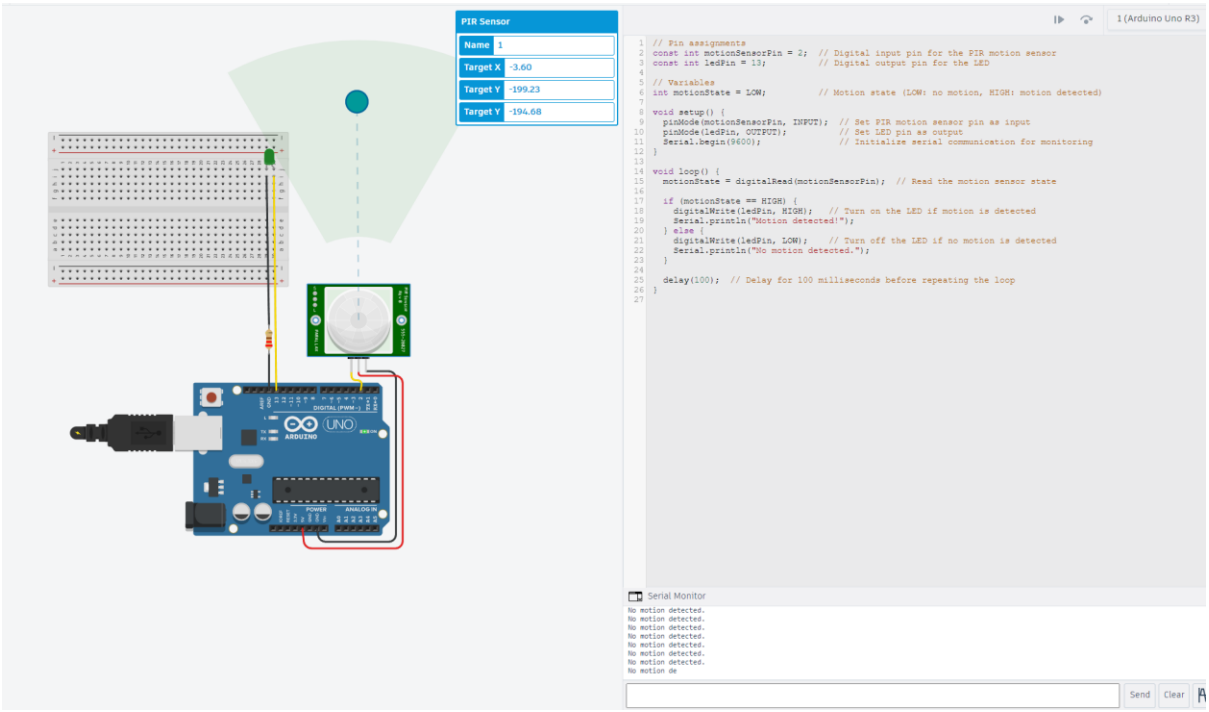
Module1 Real-time and Embedded Systems

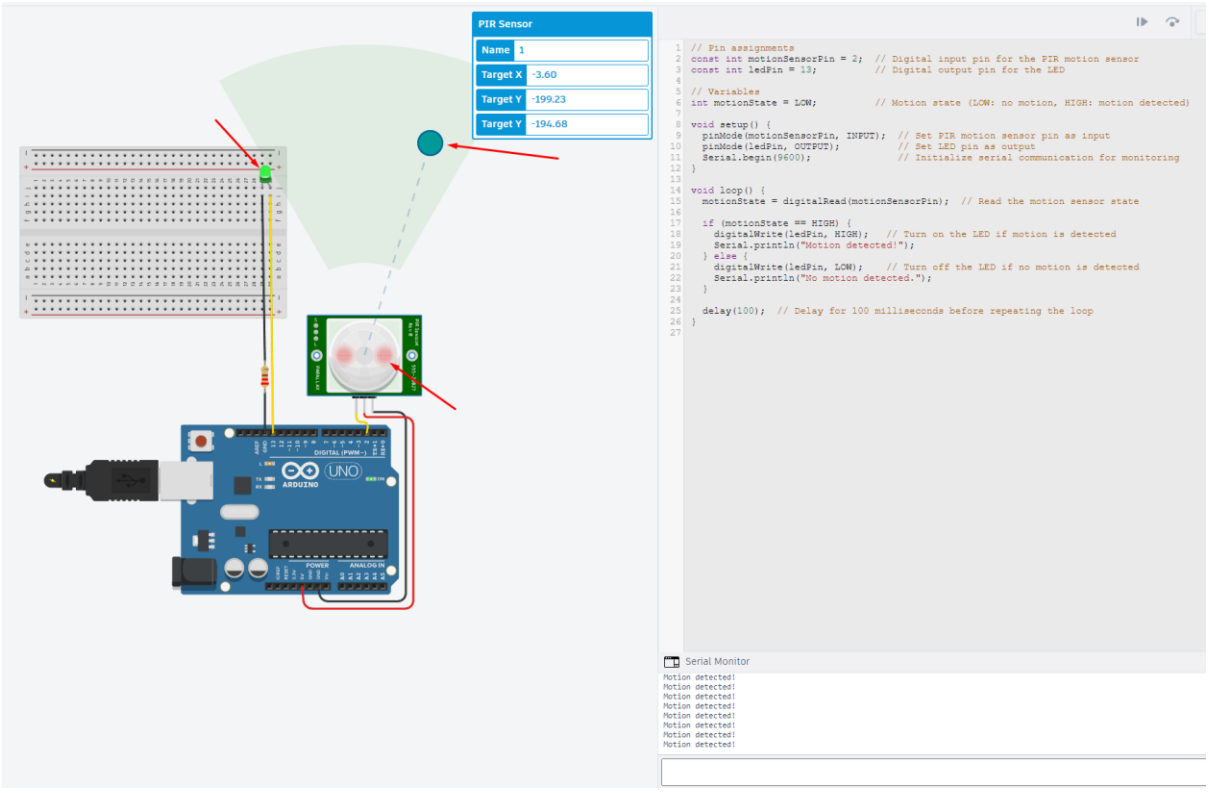
TaskM1.T1P: Build a simple Sense-Think-Act Board

Schematic Diagram:



System Monitoring Log:





Motion Detected when mouse is moved:

Source Code:

```
// Pin assignments
const int motionSensorPin = 2;  // Digital input pin for the PIR motion sensor
const int ledPin = 13;          // Digital output pin for the LED

// Variables
int motionState = LOW;          // Motion state (LOW: no motion, HIGH: motion detected)

void setup() {
  pinMode(motionSensorPin, INPUT);  // Set PIR motion sensor pin as input
  pinMode(ledPin, OUTPUT);          // Set LED pin as output
  Serial.begin(9600);               // Initialize serial communication for monitoring
}

void loop() {
  motionState = digitalRead(motionSensorPin);  // Read the motion sensor state

  if (motionState == HIGH) {
    digitalWrite(ledPin, HIGH);   // Turn on the LED if motion is detected
    Serial.println("Motion detected!");
  } else {
    digitalWrite(ledPin, LOW);    // Turn off the LED if no motion is detected
    Serial.println("No motion detected.");
  }

  delay(100);  // Delay for 100 milliseconds before repeating the loop
}
```

GitHub Repository:

https://github.com/bradewalder/SIT315/blob/bd453478f721daa7f6cae1239e337627aab53f97/Module1