

ASSIGNMENT 1

Date: 12.09.2022

Create a circuit with piezo alarm, PIR sensor, Temperature sensor consisting following features

- 1. Alarm when temperature is above 60 degree celcius, and**
- 2. Alarm when motion detected using Passive Infrared sensor**

PROGRAM:

```
// C++ code
int pir, buzz;
float temp;
void setup()
{
    pir = 3;
    buzz = 12;
    pinMode(pir, INPUT);
    pinMode(buzz, OUTPUT);
    Serial.begin(9600);
}

void loop()
{
    //Motion Monitoring
    int motion = digitalRead(pir);
    if(motion == 1)
    {
        tone(buzz, 50);
        Serial.println("Motion Status: Detected");
        delay(50);
    }
    else
    {
        noTone(buzz);
        Serial.println("Motion Status: Not Detected");
    }

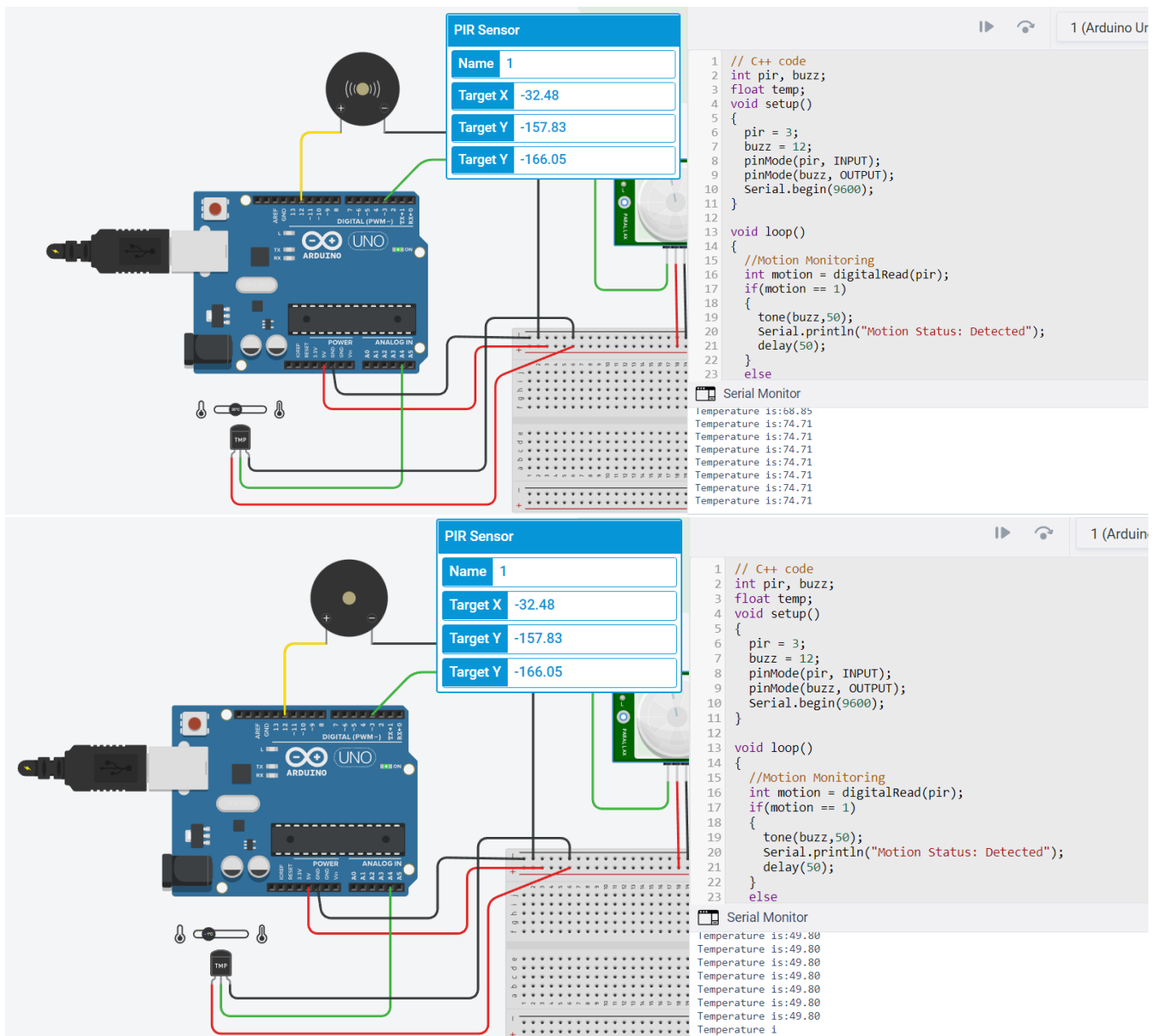
    //Temperature Measurement
    float data = analogRead(A4);
    float temp = (((data/1024.0)*5)*100);
```

```

Serial.print("Temperature is:");
Serial.println(temp);
if(temp>60)
{
    tone(buzz,200,200);
    delay(500);
}
else{
    noTone(buzz);
}
}

```

OUTPUT :



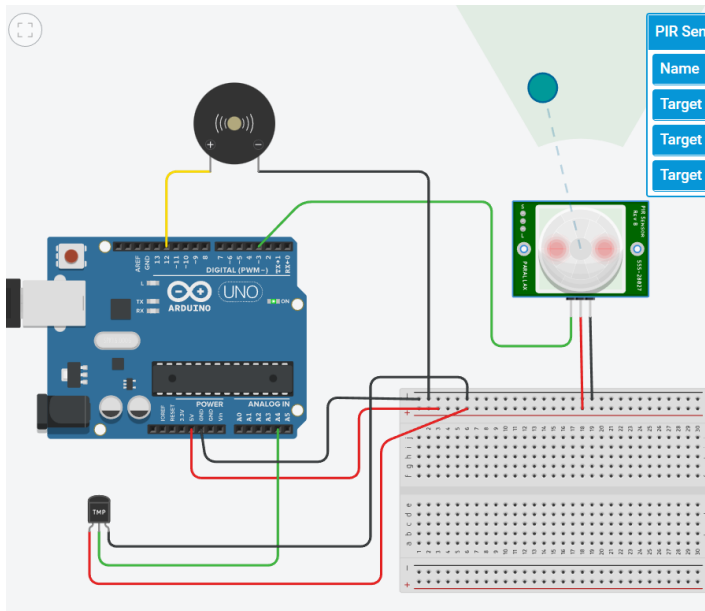
The image displays two screenshots of an Arduino Uno project setup and execution. Both screenshots show the same hardware configuration: an Arduino Uno board connected to a breadboard with a PIR sensor, a buzzer, and a temperature sensor (TMP).

Top Screenshot:

- Code:** The C++ code defines a PIR sensor (Name: 1, Target X: -32.48, Target Y: -157.83, Target Y: -166.05) and a buzzer (Name: 1, Target X: -32.48, Target Y: -157.83, Target Y: -166.05). The code includes a setup function to initialize the PIR sensor and a loop function to monitor motion and temperature.
- Serial Monitor:** The output shows a series of temperature readings: 68.85, 74.71, 74.71, 74.71, 74.71, 74.71, 74.71, 74.71.

Bottom Screenshot:

- Code:** The code is identical to the top screenshot.
- Serial Monitor:** The output shows a series of temperature readings: 49.80, 49.80, 49.80, 49.80, 49.80, 49.80, 49.80, 49.80.



PIR Sensor

Name	1
Target X	-32.48
Target Y	-157.83
Target Y	-166.05

```

1 // C++ code
2 int pir, buzz;
3 float temp;
4 void setup()
5 {
6   pir = 3;
7   buzz = 12;
8   pinMode(pir, INPUT);
9   pinMode(buzz, OUTPUT);
10  Serial.begin(9600);
11 }
12
13 void loop()
14 {
15   //Motion Monitoring
16   int motion = digitalRead(pir);
17   if(motion == 1)
18   {
19     tone(buzz,50);
20     Serial.println("Motion Status: Detected");
21     delay(50);
22   }
23   else


```

Serial Monitor

```

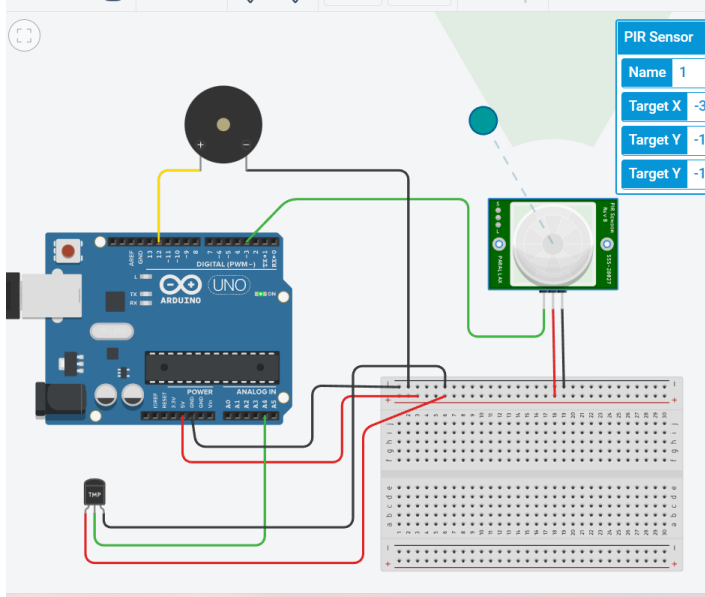
Temperature is:37.11
Motion Status: Detected
Temperature is:37.11
Motion Status: Detected
Temperature is:37.11
Motion Status: Detected
Temperature is:37.11
Motion Status:

```



Simulator time: 00:00:10.543

Code
Stop Simulation



PIR Sensor

Name	1
Target X	-32.48
Target Y	-157.83
Target Y	-166.05

```

20   Serial.println("Motion Status: Detected");
21   delay(50);
22 }
23 else
24 {
25   noTone(buzz);
26   Serial.println("Motion Status: Not Detected");
27 }
28
29 //Temperature Measurement
30 float data = analogRead(A4);
31 float temp = (((data/1024.0)*5)*100);
32 Serial.print("Temperature is:");
33 Serial.println(temp);
34 if(temp>60)
35 {
36   tone(buzz,200,200);
37   delay(500);
38 }
39 else{
40   noTone(buzz);
41 }
42

```

Serial Monitor

```

Motion Status: Not Detected
Temperature is:40.04
Motion Status: Not Detected
Temperature is:40.04
Motion Status: Not Detected
Temperature is:40.04
Motion Status: Not Detected
Temperature

```

Send