

# **IBM ASSIGNMENT 3 IOT**

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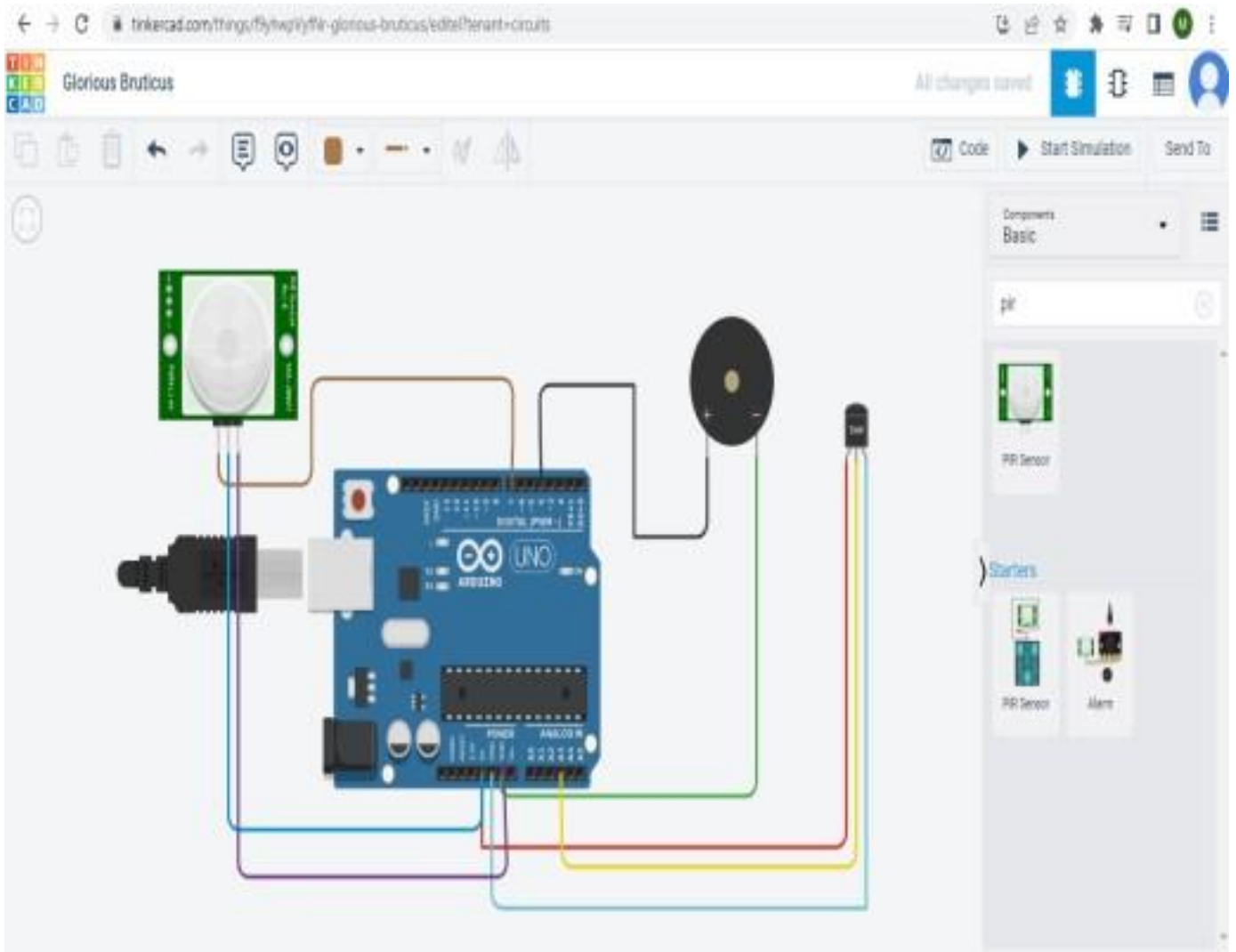
Branch :Computer Science and Engineering

## **Topic:**

To design a circuit using PIR sensor, Temperature sensor and Piezo alarm and to perform the following operations:

- 1.Alarm should sound in one manner if the temperature is above “60 C”.
- 2.Alarm should sound with another frequency if motion is detected using PIR sensor.

## **Circuit:**



## Code:

```
void setup()
{
  Serial.begin(9600);
  pinMode(4,OUTPUT);
  pinMode(7,INPUT);
}
void loop()
{
  int mov=digitalRead(7);
  double dt=analogRead(A3);
  double a=dt/1024;
```

```
double volt=a*5;
double offset=volt-0.5;
double temp=offset*100;
Serial.print("Temperature Detected: ");
Serial.println(temp);
if(mov==0){
  Serial.println("No Motion Detected");
}
if(mov==1){
  Serial.println("Motion Detected");
  tone(4,100,1000);
}
if(temp>60){
  tone(4,400,1000);
}
}
```

**Output:**

tinycad.com/things/5yhwp/ylfi-glorious-bruticus/edite?tenant=circuits

Glorious Bruticus

All changes saved

Code Start Simulation Send To

PIR Sensor

Name 1

```
10 double volt=0;
14 double offset=volt-0.5;
17 double tempoffset=100;
18 Serial.print("Temperature Detected: ");
19 Serial.println(temp);
20 if(mov==1){
```

Serial Monitor

No Motion Detected  
Temperature Detected: 96.00  
No Motion Detected  
Temperature Detected: 96.00  
No Motion Detected  
Temperature Detected: 96.00  
No Motion Detected  
Temperature Detected: 96.00  
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Temperature Detected: 96.00  
No Motion Detected  
Temperature Detected: 96.00  
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Temperature Detected: 96.00  
Motion Detected  
Temperature Detected: 96.00  
Motion Detected

Send Clear