

IBM ASSESMENT - 1

Create circuit with Piezo alarm,PIR sensor,tempSensor with below functionalities:

1.Alarm should sound in one manner if temp is above 60 c.

2.Alarm should sound with another frequency if motion is detected in PIR sensor.

Input Circuit Connection Screenshoots:

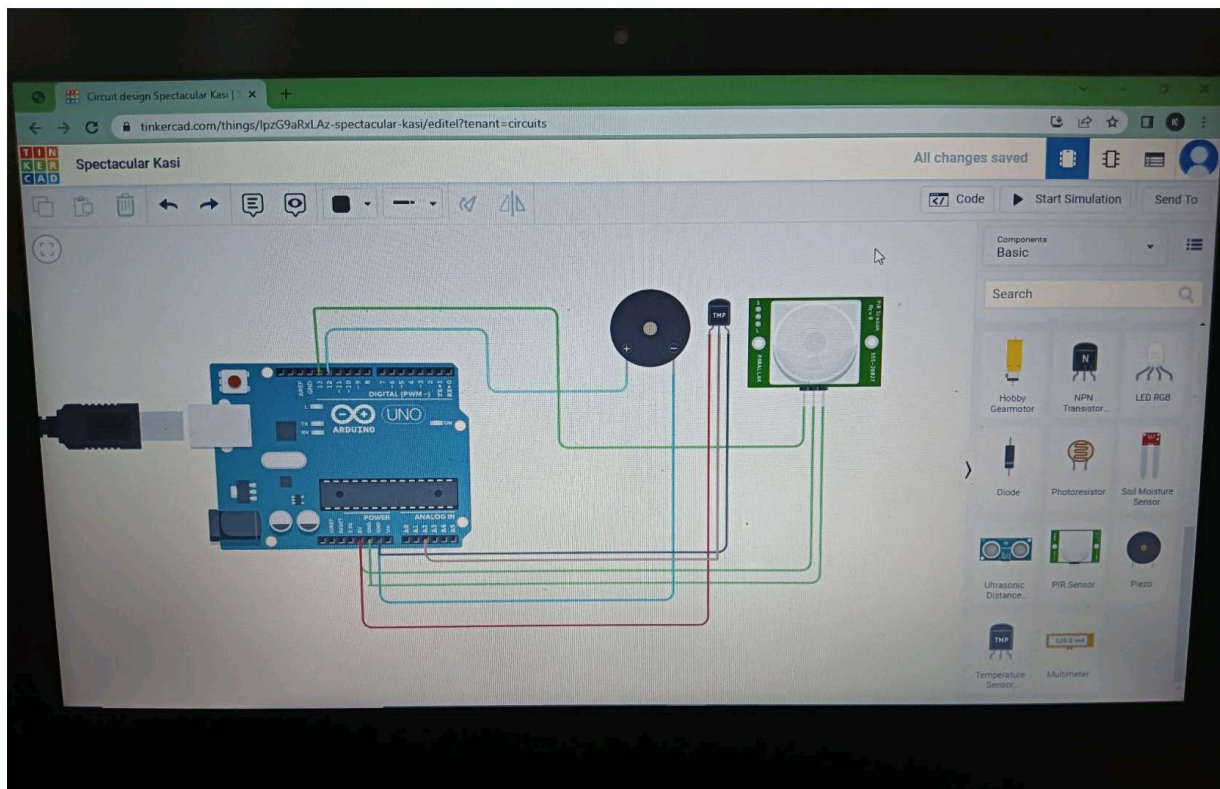


Fig 1. Circuit connection with Piezo alarm, PIR sensor, temp Sensor

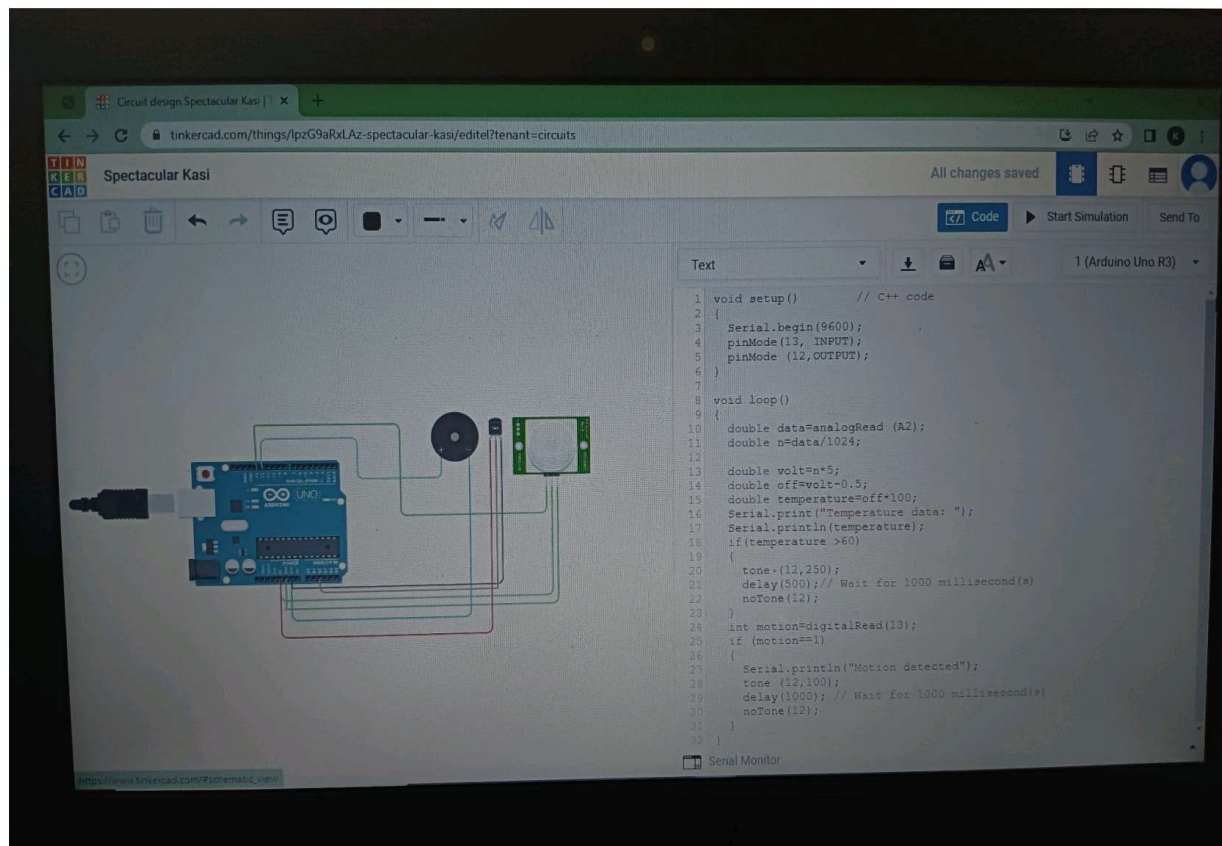


Fig 2. Circuit with an Code

Program

```
// C++ code
void setup()
{
  Serial.begin(9600);
  pinMode(13, INPUT);
  pinMode (12,OUTPUT);
}

void loop()
{
  double data=analogRead (A2);
  double n=data/1024;

  double volt=n*5;
  double off=volt-0.5;
  double temperature=off*100;
  Serial.print("Temperature data: ");
  Serial.println(temperature);
  if(temperature >60)
  {
    tone (12,250);
    delay(500);// Wait for 1000 millisecond(s)
    noTone(12);
  }
  int motion=digitalRead(13);
  if (motion==1)
  {
    Serial.println("Motion detected");
    tone (12,100);
    delay(500); // Wait for 1000 millisecond(s)
    noTone(12);
  }
}
```