

IBM ASSIGNMENT- I

TEAM ID : PNT2022TMID2663

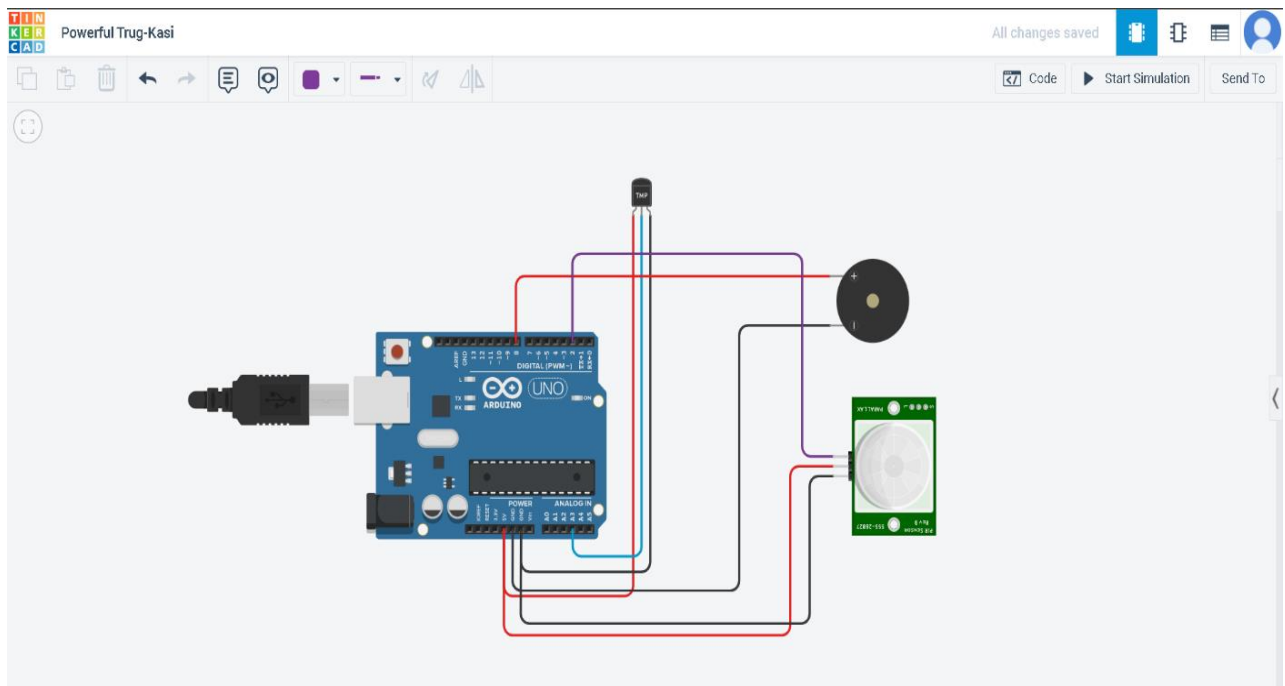
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Create a circuit with Piezo alarm, PIR Sensor, TMP Sensor with below functionalities:

- 1.Alarm should sound in one manner if temp is above 60C
- 2.Alarm should sound with another frequency if motion is detected in PIR Sensor.

CIRCUIT LAYOUT:



CODE:

```
void setup()
{
  pinMode(A3, INPUT);
  pinMode(8, OUTPUT);
  pinMode(2, INPUT);
  Serial.begin(9600);
}
void loop()
{
  float temp;
  temp=analogRead(A3);
  temp=((temp*5)/1024);
  temp = (temp-0.5)*100;
  Serial.print("Temperature = ");
  Serial.print(temp);
  Serial.println(" C ");
  int motion=digitalRead(2);
  if (motion==1){
    Serial.println("Motion Detected");
    tone(8,15000);
    delay(3000);
  }
  else{
    Serial.println("No Motion");
    noTone(8);
  }
  if (temp<59)
    noTone(8);
  if (temp>=60)
    tone(8,1000);
    delay(5000);
}
```

OUTPUT:

PASSIVE INFRARED SENSOR:

Powerful Trug-Kasi

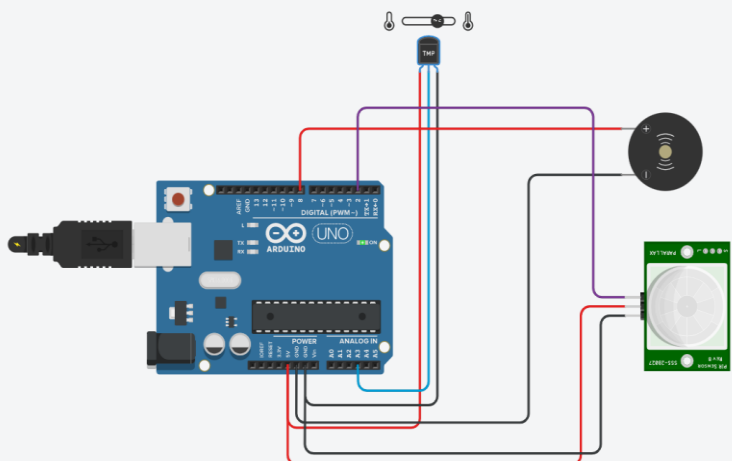
Simulator time: 00:00:53

All changes saved

Code Stop Simulation Send To

1 (Arduino Uno R3)

Temperature Sensor [TMP36]
Name 2



```
1 void setup()
2 {
3   pinMode(A3, INPUT);
4   pinMode(8, OUTPUT);
5   pinMode(2, INPUT);
6   Serial.begin(9600);
7 }
8 void loop()
9 {
10  float temp;
11  temp=analogRead(A3);
12  temp = ((temp*5)/1024);
13  temp = (temp-0.5)*100;
14  Serial.print("Temperature = ");
15  Serial.println(temp);
16  Serial.println(" C ");
17  int motion=digitalRead(2);
18  if (motion==1){
19    Serial.println("Motion Detected");
20    tone(8,15000);
21    delay(3000);
22  }
23  else{
24    Serial.println("No Motion");
25  }
```

Serial Monitor

Temperature = 55.96 C
No Motion
Temperature = 75.00 C
No Motion
Temperature = 75.00 C
No Motion
Temperature = 75.00 C
No Motion

Send Clear

TEMPERTURE SENSOR (AT 60°C):

Powerful Trug-Kasi

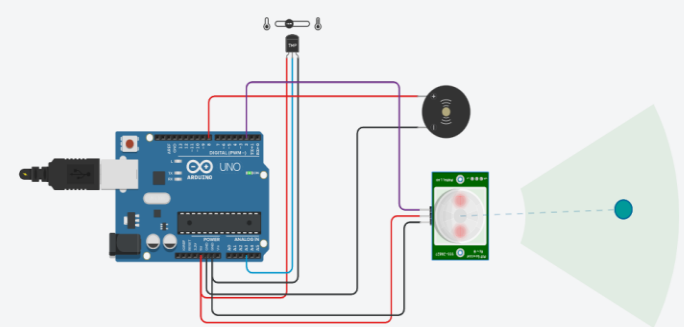
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All changes saved

Code Stop Simulation Send To

1 (Arduino Uno R3)

PIR Sensor
Name 1



```
1 void setup()
2 {
3   pinMode(A3, INPUT);
4   pinMode(8, OUTPUT);
5   pinMode(2, INPUT);
6   Serial.begin(9600);
7 }
8 void loop()
9 {
10  float temp;
11  temp=analogRead(A3);
12  temp = ((temp*5)/1024);
13  temp = (temp-0.5)*100;
14  Serial.print("Temperature = ");
15  Serial.println(temp);
16  Serial.println(" C ");
17  int motion=digitalRead(2);
18  if (motion==1){
19    Serial.println("Motion Detected");
20    tone(8,15000);
21    delay(3000);
22  }
23  else{
24    Serial.println("No Motion");
25  }
```

Serial Monitor

Temperature = 24.71 C
No Motion
Temperature = 24.71 C
No Motion
Temperature = 24.71 C
No Motion
Temperature = 24.71 C
Motion Detected

Send Clear