

# IBM ASSIGNMENT- I

**TEAM ID : PNT2022TMID26632**

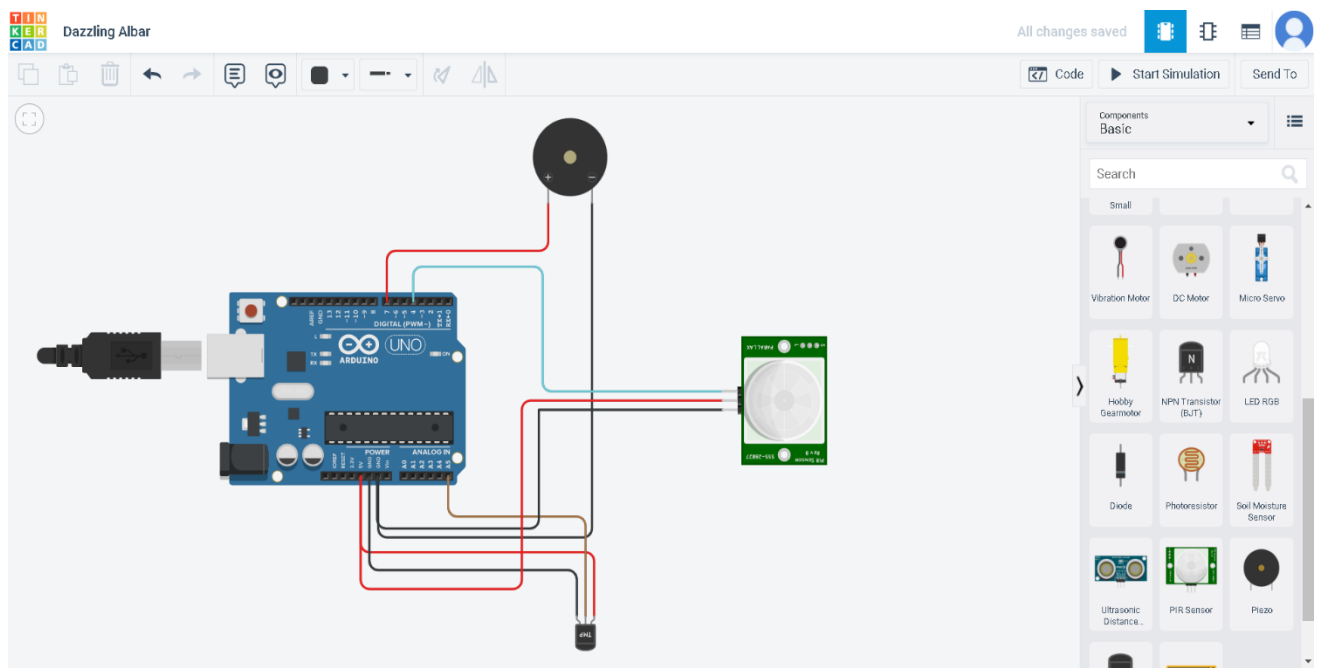
**NAME : KAMALI A**

**ROLL NO : 212919106042**

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(A5, INPUT);
  pinMode(7, OUTPUT);
  pinMode(4, INPUT);
  Serial.begin(9600);
}
void loop()
{
  float temp;
  temp=analogRead(A5);
  temp=((temp*5)/1024);
  temp=(temp-0.5)*100;
  Serial.print("Temperature = ");
  Serial.print(temp);
  Serial.println(" C ");
  int motion=digitalRead(4);
  if (motion==1){
    Serial.println("Motion Detected");
    tone(7,15000);
    delay(3000);
  }
  else{
    Serial.println("No Motion");
    noTone(7);
  }
  if (temp<59)
    noTone(7);
  if (temp>=60)
    tone(7,1000);
    delay(5000);
}
```

# OUTPUT:

## PASSIVE INFRARED SENSOR:

**PIR Sensor**  
Name: 1

```
1 void setup()
2 {
3   pinMode(A5, INPUT);
4   pinMode(7, OUTPUT);
5   pinMode(4, INPUT);
6   Serial.begin(9600);
7 }
8 void loop()
9 {
10  float temp;
11  temp = analogRead(A5);
12  temp = (temp * 5) / 1024;
13  temp = (temp - 0.5) * 100;
14  Serial.print("Temperature = ");
15  Serial.print(temp);
16  Serial.println(" C ");
17  int motion = digitalRead(4);
18  if (motion == 1) {
19    Serial.println("Motion Detected");
20    tone(7, 15000);
21    delay(3000);
22  }
23  else {
24    Serial.println("No Motion");
25    noTone(7);
26  }
27 }
```

**Serial Monitor**

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

## TEMPERTURE SENSOR (AT 60°C):

**Temperature Sensor [TMP36]**  
Name: 2

```
1 void setup()
2 {
3   pinMode(A5, INPUT);
4   pinMode(7, OUTPUT);
5   pinMode(4, INPUT);
6   Serial.begin(9600);
7 }
8 void loop()
9 {
10  float temp;
11  temp = analogRead(A5);
12  temp = (temp * 5) / 1024;
13  temp = (temp - 0.5) * 100;
14  Serial.print("Temperature = ");
15  Serial.print(temp);
16  Serial.println(" C ");
17  int motion = digitalRead(4);
18  if (motion == 1) {
19    Serial.println("Motion Detected");
20    tone(7, 15000);
21    delay(3000);
22  }
23  else {
24    Serial.println("No Motion");
25    noTone(7);
26  }
27 }
```

**Serial Monitor**

```
Temperature = 86.72 C
No Motion
Temperature = 86.72 C
No Motion
Temperature = 86.72 C
No Motion
Temperature = 86.72 C
No Motion
```