

Assignment -1
Python Programming

Assignment Date	27 September 2022
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Student Roll Number	922519205046
Maximum Marks	2 Marks

Question-1:

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

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

void setup()
{
Serial.begin(9600);
pinMode(4,OUTPUT);
pinMode(7,INPUT);
}
void loop()
{
int tem=digitalRead(7);
double d=analogRead(A3);
double n=d/1024;
double voltage=n*5;
double offset=voltage-0.5;
double temp=offset*100;
Serial.print("Temperature Detected:");
Serial.println(temp);
if(tem==0){
Serial.println("No Motion Detected");
}
if(tem==1){
Serial.println("Motion Detected");
tone(4,100,1000);
}
if(temp>60){
tone(4,400,1000);
}
}

OUTPUT:

The screenshot displays the Arduino IDE interface with a simulated circuit and its corresponding code. The circuit includes an Arduino Uno R3, a DHT22 temperature and humidity sensor, and a PIR motion sensor. The code in the main editor area is as follows:

```
1 void setup()
2 {
3   Serial.begin(9600);
4   pinMode(4, OUTPUT);
5   pinMode(7, INPUT);
6 }
7 void loop()
8 {
9   int tem=digitalRead(7);
10  double d=analogRead(A3);
11  double n=d/1024;
12  double voltage=n*5;
13  double offset=voltage-0.5;
14  double temp=offset*100;
15  Serial.print("Temperature Detected:");
16  Serial.println(temp);
17  if(tem==0){
18    Serial.println("No Motion Detected");
19  }
20  if(tem==1){
```

The Serial Monitor window at the bottom right shows the output of the simulation:

```
No Motion Detected
Temperature Detected:39.84
No Motion Detected
Temperature Detected:39.84
No Motion Detected
Temperature Detected:39.84
No Motion Detected
Temperature Detected:39.84
No Motion Detected
Temperature Detected:39.84
```

The status bar at the bottom indicates a temperature of 98°F, mostly sunny weather, and the date 17-09-2022.