Assignment Date	08 September 2022
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Maximum Marks	2 Marks

Question: Build home automation using 2 to 3 sensors,buzzer and LED.

Solution:

Project description:

This is a connection setup of an Arudino Uno, LED light (3), temperature sensor, humidity sensor and a buzzer. initially the arudino is connected to the temperature sensor and with LEDs. When the temperature varies different LEDs glow. Then the arudino is connected to the PIR sensor which is connected to a buzzer. The PIR sensor senses the movement of humans and produces output according to the movement.

Apparatus required:

- ➢ Arudino UNO
- ➢ LEDs(blue,green,red)
- ➢ PIR sensor
- ➢ Temperature sensor
- ➢ Buzzer

[code]

```
const int hot = 87; //set hot parameter

const int cold = 75; //set cold parameter

int Buzz= 13; // Define Bizzer pin
```

```
int PIR= 4; // Define PIR pin

int val= 0; // Initializing the value as zero at the beginning

 void setup() {

pinMode(A1, INPUT); //sensor

pinMode(12, OUTPUT); //red

pinMode(11, OUTPUT); //green

pinMode(10, OUTPUT); //blue

Serial.begin(9600);


pinMode(Buzz, OUTPUT);

pinMode(PIR, INPUT);

Serial.begin(9600);

}

void loop() {

int sensor = analogRead(A2);

float voltage = (sensor / 1024.0) * 5.0;

float tempC = (voltage - .5) * 100;

float tempF = (tempC * 1.8) + 32;

Serial.print("temp: ");

Serial.print(tempF);

if (tempF < cold) { //cold

digitalWrite(12, HIGH);
```

```
digitalWrite(11, LOW);

digitalWrite(10, LOW);

Serial.println(" It's Cold.");


 if(val == HIGH){

 digitalWrite(Buzz, HIGH); // Turn Buzzer ON

 Serial.println("Movement Detected"); // Print this text in Serial Monitor

}


else if (tempF >= hot) { //hot

digitalWrite(12, LOW);

digitalWrite(11, LOW);

digitalWrite(10, HIGH);

Serial.println(" It's Hot.");

}

else { //fine

digitalWrite(12, LOW);

digitalWrite(11, HIGH);

digitalWrite(10, LOW);

Serial.println(" It's Fine.");

 digitalWrite(Buzz, LOW);

  Serial.println("Movement not Detected");
```

```
}

delay(1000);

}

}
```

[/code]

Circuit diagram: