

SMART CROP PROTECTION

ASSIGNMENT-1

Date	08 September 2022
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Maximum Marks	2 Marks

PROGRAM

```
#include <Servo.h>
Servo Servo_motor;

int led_1 = 7;
int led_2 = 8;
int led_3 = 9;
int led_4 = 10;
int Temp = A0;
int Motion = 6;
int Buzzer = 5;
int trigPin = 2;
int echoPin = 3;
long distance;
long duration;
const int hot = 87;
const int cold = 75;

void setup()
{
    Servo_motor.attach(4);
    pinMode(Temp, INPUT);
    pinMode(Motion, INPUT);
    pinMode(trigPin, OUTPUT);
    pinMode(echoPin, INPUT);
    pinMode(led_1, OUTPUT);
    pinMode(led_2, OUTPUT);
    pinMode(led_3, OUTPUT);
    pinMode(led_4, OUTPUT);
    pinMode(Buzzer, OUTPUT);

}

void loop()
{
    int sensor = analogRead(A2);
    float voltage = (sensor / 1024.0) * 5.0;
    float tempC = (voltage - .5) * 100;
    float tempF = (tempC * 1.8) + 32;

    if (tempF < cold)
    {
```

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```
    digitalWrite(7, HIGH);
    digitalWrite(8, LOW);
    digitalWrite(9, LOW);

}
else if (tempF >= hot)
{
    digitalWrite(7, LOW);
    digitalWrite(8, LOW);
    digitalWrite(9, HIGH);
    tone(5, 1000);
    delay(2000);
    noTone(5);
    delay(2000);

}
else
{
    digitalWrite(7, LOW);
    digitalWrite(8, HIGH);
    digitalWrite(9, LOW);

}
delay(10);

digitalWrite(trigPin, LOW);
delayMicroseconds(2);
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distance = duration*0.034/2;

Servo_motor.write(0);
if(distance <= 10)
{
    Servo_motor.write(90);
}

int reading = digitalRead(Motion);
if (reading == HIGH)
{
    digitalWrite(led_4, HIGH);
}
else {
    digitalWrite(led_4, LOW);
}
}
```

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