#### **Problem Statement:**

# IoT-Based Smart Crop Protection System for Agriculture

## Domain:

Internet of Things

#### **ASSIGNMENT 1**

### By,

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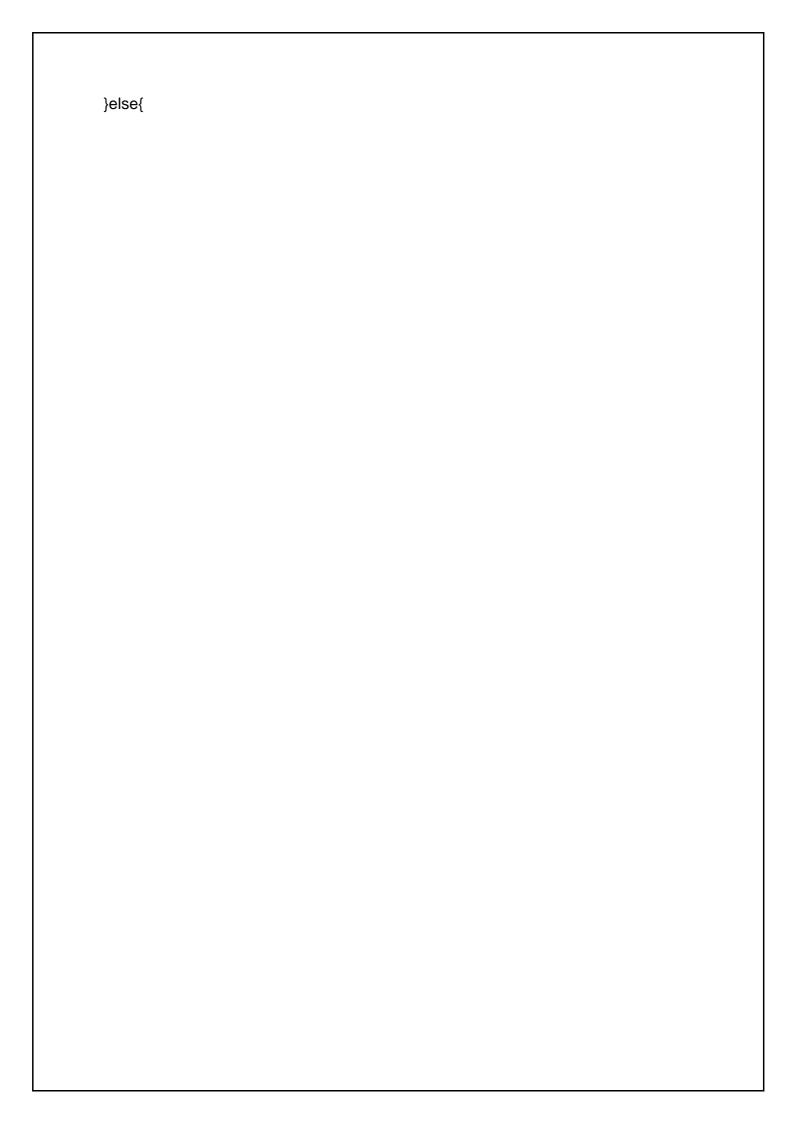
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#### Code:

```
const int pingPin =
10; const int ledUS
= 2; const int light =
7; const int pir = 4;
#define photoSensor
A0 #define buzzer 3
int const PINO_SGAS =
A5; int const ledGas =
8;
int const button =
5; int const motor =
13; void setup()
 pinMode(ledUS, OUTPUT);
 pinMode(light, OUTPUT);
 pinMode(buzzer, OUTPUT);
 pinMode(ledGas, OUTPUT);
 pinMode(motor, OUTPUT);
 pinMode(pir, INPUT);
 pinMode(button, INPUT);
 pinMode(photoSensor,
INPUT); Serial.begin(9600);
}
void loop()
{
long duration, cm;
int valLight =
analogRead(photoSensor); int
valPIR= digitalRead(pir);
int valGAS = analogRead(PINO_SGAS);
```

```
valGAS = map(valGAS, 300, 750, 0, 100);
int valBt = digitalRead(button);
pinMode(pingPin, OUTPUT);
digitalWrite(pingPin, LOW);
delayMicroseconds(2);
digitalWrite(pingPin, HIGH);
delayMicroseconds(5);
digitalWrite(pingPin, LOW);
pinMode(pingPin, INPUT);
duration = pulseIn(pingPin,
HIGH);
cm =
microsecondsToCentimeters(duration);
if(cm < 336){
digitalWrite(ledUS, HIGH);
}else{
digitalWrite(ledUS, LOW);
if(valLight < 890){
digitalWrite(light,
HIGH);
}else{
digitalWrite(light, LOW);
if(valPIR == 1){
digitalWrite(buzzer,
HIGH);
}else{
digitalWrite(buzzer, LOW);
if(valBt == 1){
digitalWrite(motor,
HIGH);
```



```
digitalWrite(motor, LOW);
}
if(valGAS > 20){
    digitalWrite(ledGas,
    HIGH);
}else{
    digitalWrite(ledGas, LOW);
}
Serial.print(valPI
R);
Serial.println();
}
long microsecondsToCentimeters(long microseconds) { return microseconds / 29 / 2;
}
```

## Simulation:

