

## ASSIGNMENT 1: HOME AUTOMATION SYSTEM

### TOPIC: IOT ENABLED SMART FARMING APPLICATION

#### CODING:

```
float x,y;          //TEMP
#define trigPin 12  //ULTRA
#define echoPin 10
int ledPin= 13;
int duration, distance; //ULTRA

#include<Servo.h>    //servo
Servo my;           //servo
char val;           //bluetooth
void setup() {
  Serial.begin(9600);
  pinMode(2,INPUT); //IR GATE FIRST
  pinMode(3,INPUT);
  my.attach(11);    //servo
  pinMode(4, OUTPUT); //IR GATE FIRST
  pinMode(7,OUTPUT); //TEM
  pinMode(8,INPUT);  //pir 1
  pinMode(9,OUTPUT); //LED 1
  // pinMode(10,INPUT); //pir 2
  //pinMode(11,OUTPUT); //LED2
  pinMode(trigPin, OUTPUT); //12 PIN ULTRA
  pinMode(echoPin, INPUT); //10 PIN ULTRA
  pinMode(ledPin, OUTPUT); //13 PIN ULTRA
  pinMode(3,OUTPUT);      //bluetooth
}

void loop() {
  x=analogRead(0);        //TEMP
  y=((x/1024)*5)*100;
  Serial.println(y);
  delay(500);
```

```

if(y>44)
{
digitalWrite(7,1);
}
else
{
digitalWrite(7,0);
delay(500);
}

if(digitalRead(8)==HIGH)          //pir
{
digitalWrite(9,HIGH);
}
else
{
digitalWrite(9,LOW);
}
digitalWrite(trigPin, HIGH);      //ULTRA
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distance = (duration/2) / 29.1;

if (distance >= 10 || distance <= 0)
{
// Serial.println("no object detected");
digitalWrite(ledPin,LOW);
}
else
{
Serial.println("object detected \n");
Serial.print("distance= ");
Serial.print(distance);
digitalWrite(ledPin,HIGH);
}
//ULTRA
if(digitalRead(2)==HIGH)          //gate first
{
my.write(0);          //servo

```

```

    }
else
{
    my.write(90);          //servo
}

analogRead(5);           //ldr
float a = analogRead(5);
Serial.println(a);

if (a <=200) {
    digitalWrite(4,1);
    Serial.println("LDR is DARK, LED is ON");
}
else {
    digitalWrite(4,0);
    Serial.println("-----");
}                                //ldr

if (Serial.available())    //bluetooth
{
    val = Serial.read();
    Serial.println(val);
    if(val == TV)
        digitalWrite(3,HIGH);
    else if(val == tv)
        digitalWrite(3,LOW);
}                                //bluetooth
}

```

## IMAGES:

