

Assignment -1

Arduino Programming (Smart Home)

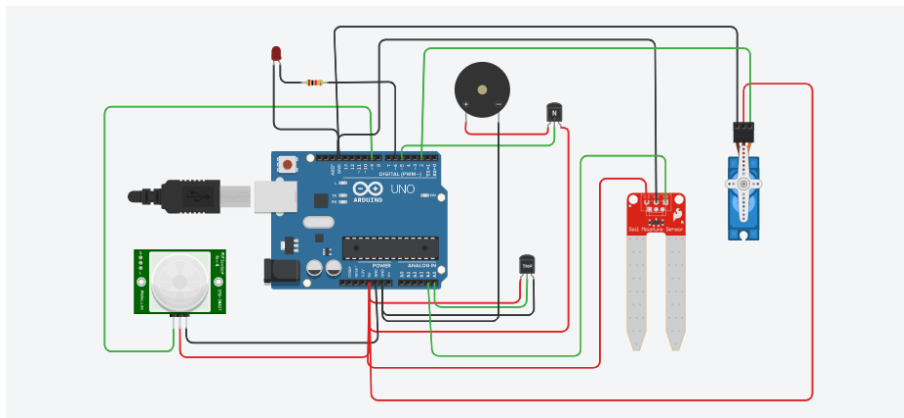
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|---------------------|---------------------|
| Assignment Date | 28th September 2022 |
| Student Name | Sivapriya S |
| Student Roll Number | 311119106050 |
| Maximum Marks | 2 Marks |

Question-1:

Make a Smart Home in TinkerCad. Use more than 2 sensors + LED + Buzzer. All this must be integrated in a single circuit under a single code.

Solution:

Circuit Diagram



Code:

```
#include<Servo.h>
Servo servo1;
float temperature;
float moisture;
int PIR ;

void setup()
{
  servo1.attach(2);
  pinMode(A5,INPUT);
  pinMode(A4,INPUT);
  pinMode(5,OUTPUT);
  pinMode(6,OUTPUT);
}
```

```

pinMode(9,INPUT);
pinMode(LED_BUILTIN, OUTPUT);
}

void loop()
{
  //Smart Home Code
  temperature = analogRead(A5);
  moisture = analogRead(A4);
  PIR = digitalRead(9);
  temperature = map(temperature, 20, 358, -40, 125);
  moisture = map(moisture,0,1024,30,100);

  if(moisture<50){
    servo1.write(90);
    delay(500);}
  else{
    servo1.write(0);
    delay(500);}

  if(temperature>50){
    digitalWrite(5,HIGH);}
  else{
    digitalWrite(5,LOW);}

  if(PIR==1){
    digitalWrite(6,HIGH);
  }
  else{
    digitalWrite(6,LOW);}

}

```

Simulation Link:

<https://www.tinkercad.com/things/8pNHHMr1laj-amazing-blad-bruticus/editel?tenant=circuits>