

Assignment 1

Assignment Date	19 September2022
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Maximum Mark	2 Mark
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QUESTION:

Build a smart home in Thinkercad with 2 sensors, an Led, buzzer and submit it.int set_waterlevel = 0;

CODE:

```
int waterlevel = 0;
int moisture_data = 0;

long readUltrasonicDistance(int triggerPin, int echoPin)
{
    pinMode(triggerPin, OUTPUT);
    digitalWrite(triggerPin, LOW);
    delayMicroseconds(2);
    digitalWrite(triggerPin, HIGH);
    delayMicroseconds(10);
    digitalWrite(triggerPin, LOW);
    pinMode(echoPin, INPUT);
    return pulseIn(echoPin, HIGH);
}

void setup()
{
    pinMode(A0, INPUT);
    Serial.begin(9600);
    pinMode(8, OUTPUT);
    pinMode(10, OUTPUT);
    pinMode(6, OUTPUT);
}

void loop()
{
    waterlevel = 0.01723 * readUltrasonicDistance(3, 2);

    Serial.print(waterlevel);
    Serial.println("WATER LEVEL");
    if (waterlevel > 200) {
        digitalWrite(8, HIGH);
        digitalWrite(10, LOW);
        digitalWrite(6, LOW);
    }
    if (waterlevel < 100) {
        digitalWrite(8, HIGH);
        digitalWrite(10, HIGH);
        digitalWrite(6, HIGH);
    }
}
```

```
}  
if (waterlevel <=200)  
{  
    digitalWrite(8,HIGH);  
    digitalWrite(10,LOW);  
    digitalWrite(6, LOW);
```

```
    delay(10);  
  }  
  moisture_data = analogRead(A0);  
  Serial.print(moisture_data);  
  Serial.println("Moisture data");  
  if (moisture_data < 12) {  
    digitalWrite(10, HIGH);  
    digitalWrite(6, HIGH);  
  } else {  
    digitalWrite(10, LOW);  
    digitalWrite(6, LOW);  
  }  
  delay(10); //  
}
```