**Assignment -1**

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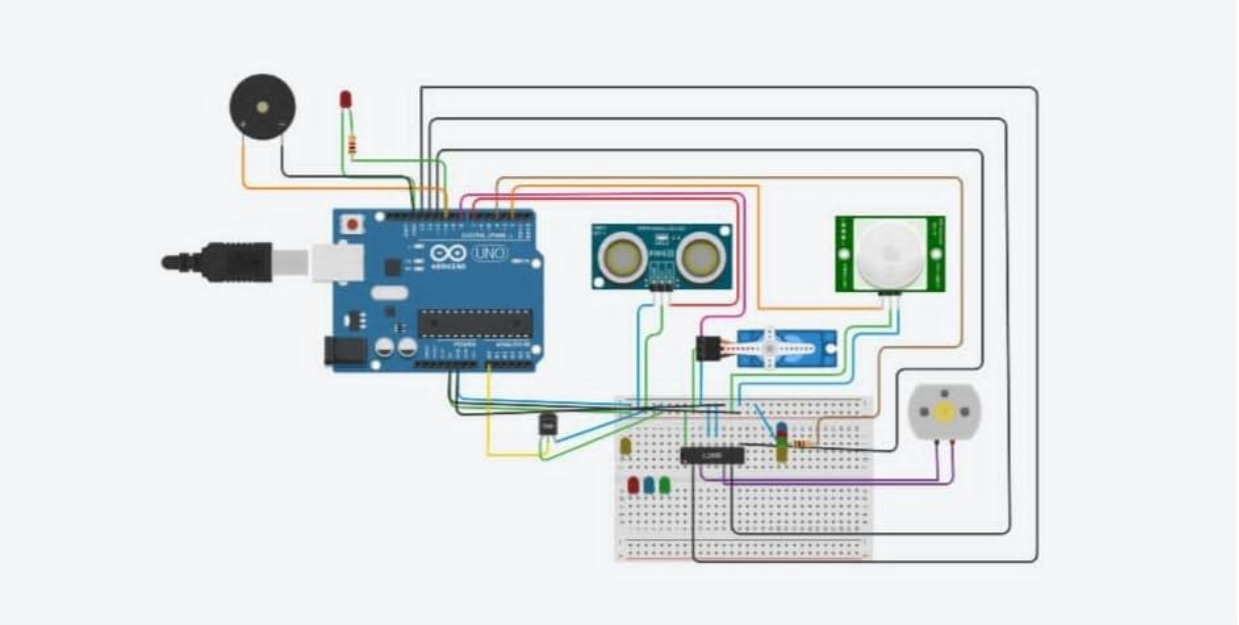
| Assignment Date | 21 September 2022 |
| Student Name | Aruna R |
| Student Roll Number | 713319CS013 |
| Maximum Marks | 2 Marks |

**Question-1:**

Build a smart home in Tinkercad with 2 sensors, an Led, buzzer and submit

it **Solution :**



```
#include<Servo.h>

const int pingPin = 7;

int servoPin = 8;


Servo servo1;


void setup() {
```

```
 Serial.begin(9600);
 servo1.attach(servoPin);
 pinMode(2,INPUT);
 pinMode(4,OUTPUT);
 pinMode(11,OUTPUT);
 pinMode(12,OUTPUT);
 pinMode(13,OUTPUT);
 pinMode(A0,INPUT);
 digitalWrite(2,LOW);
 digitalWrite(11,HIGH);
 pinMode(2, INPUT);
 pinMode(10,OUTPUT);
}

void loop() {

 long duration, inches, cm;

 pinMode(pingPin, OUTPUT);
 digitalWrite(pingPin, LOW);
 delayMicroseconds(2);
 digitalWrite(pingPin, HIGH);
 delayMicroseconds(5);
 digitalWrite(pingPin, LOW);

 pinMode(pingPin, INPUT);
 duration = pulseIn(pingPin, HIGH);

 inches = microsecondsToInches(duration);
cm = microsecondsToCentimeters(duration);
```

```
 servo1.write(0);

 if(cm < 40)
 {
 servo1.write(90);
 delay(2000);
 }
 else
 {
 servo1.write(0);
 }

 int pir = digitalRead(2);
 if(pir == HIGH)
 {
 digitalWrite(4,HIGH);
delay(1000);
 }
 else if(pir == LOW)
 {
 digitalWrite(4,LOW);
}
 Serial.println(digitalRead(2));
if (digitalRead(2) == 1) {
digitalWrite(10, HIGH);  } else
{
 digitalWrite(10, LOW);
}
 delay(10);
```

```
float value=analogRead(A0);
float temperature=value*0.48;


Serial.println("temperature");

Serial.println(temperature);


if(temperature > 20)

{

digitalWrite(12,HIGH);

digitalWrite(13,LOW);

}

else

{

digitalWrite(12,LOW);

digitalWrite(13,LOW);

}

}


long microsecondsToInches(long microseconds) {

return microseconds / 74 / 2;

}


long microsecondsToCentimeters(long microseconds) {

return microseconds / 29 / 2;

}
```