**ASSIGNMENT – 1**

**ARDUINO PROGRAMMING**

| Assignment Date | 19 September 2022 |
|---|---|
| Student Name | Manikandan S |
| Student Roll Number | 73771914133 |
| Maximum Marks | 2 Marks |

**QUESTION:**

Write a program for Smart Home Application using Arduino with any two sensors.

**SOLUTION:**

CPP CODE:

```cpp
int t1=4;

int e1=5;

int buzzer=13;

void setup()

{

Serial.begin(9600);

pinMode(t1,OUTPUT);

pinMode(e1,INPUT);

pinMode(buzzer,OUTPUT);

pinMode(9, OUTPUT);

}

void loop()

{

digitalWrite(t1,LOW);

digitalWrite(t1,HIGH);

delayMicroseconds(10);

digitalWrite(t1,LOW);

float dur1 =pulseIn(e1,HIGH);

float dis1=(dur1*0.0343)/2;

//Serial.print("Distance is :");

//Serial.println(dis1);
```

```
buzzer=map(dis1,330,10,0,255);

analogWrite(13,buzzer);


int a=analogRead(A0);

int bb=map(a,0,1023,0,255);

Serial.println(bb);

if(bb>70){

Serial.println("Smoke Detected");

}

}
```
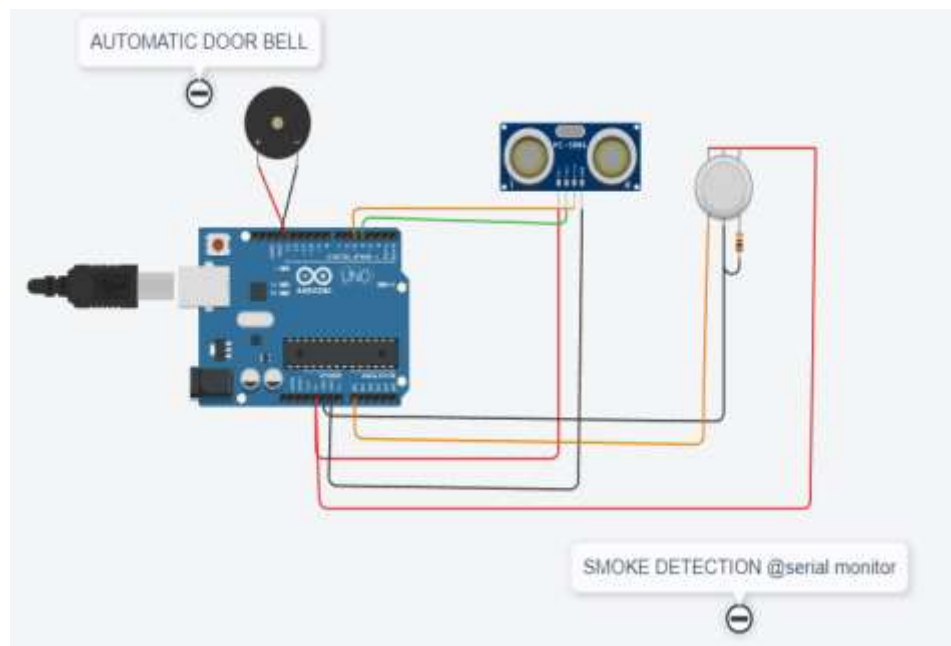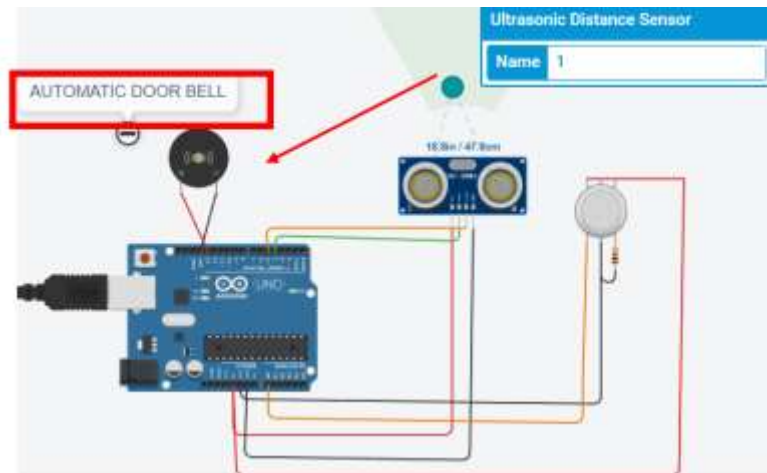
**TINKERCAD DESIGN:**



**TINKERCARD LINK:**

https://www.tinkercad.com/things/2TPMhP2gZFx-assgn-/editel?sharecode=1t8VmTvDAudIsrerlEi23UgRFHIozrnGWwaX3T6TJK4

**OUTPUT:**

1. Buzzer rings when Ultrasonic Sensor captures any object within its range

AUTOMATIC DOOR BELL

Ultrasonic Distance Sensor
Name 1

2. When gas levels are high Alert Message is Created.



SMOKE DETECTION @serial.monitor

Serial Monitor

```
68
68
68
68
81
Smoke Detected
57
64
```