ASSIGNMENT 1:

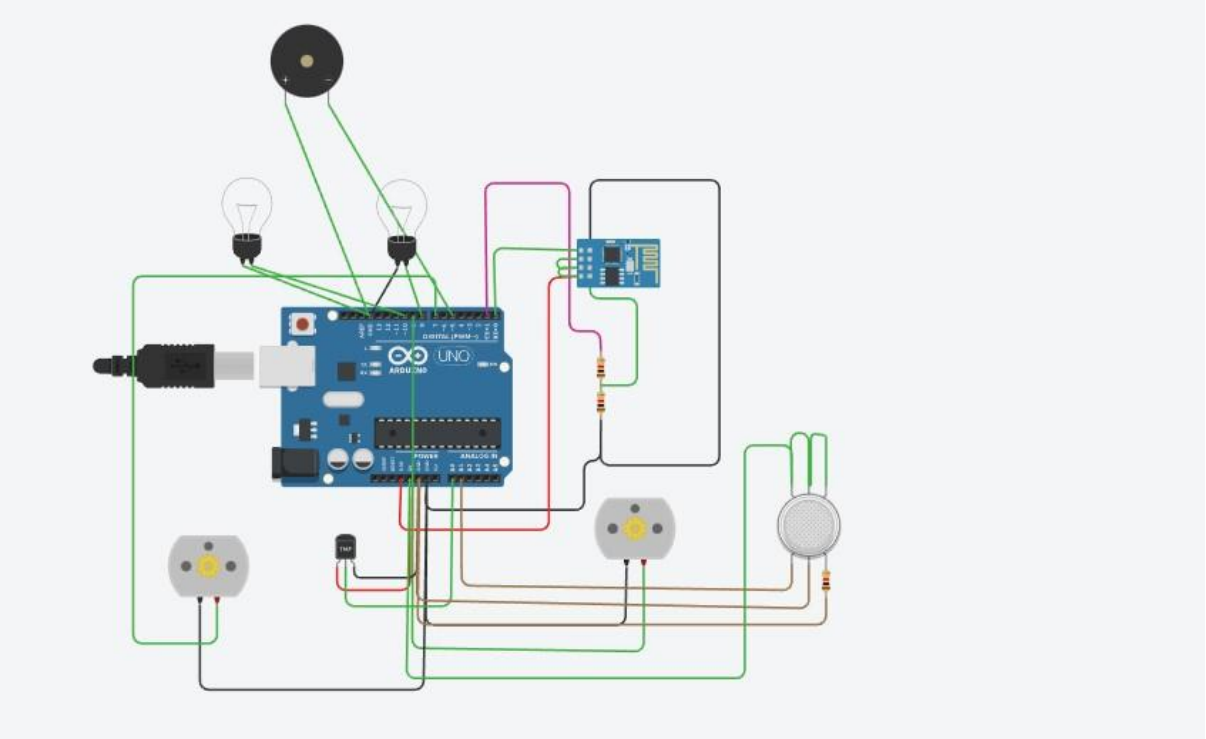
SMART HOME AUTOMATION WITH SENSORS USING

ARDUINO UNO

SOFTWARE COMPONENT:

TINKERCAD

CIRCUIT DESIGN:



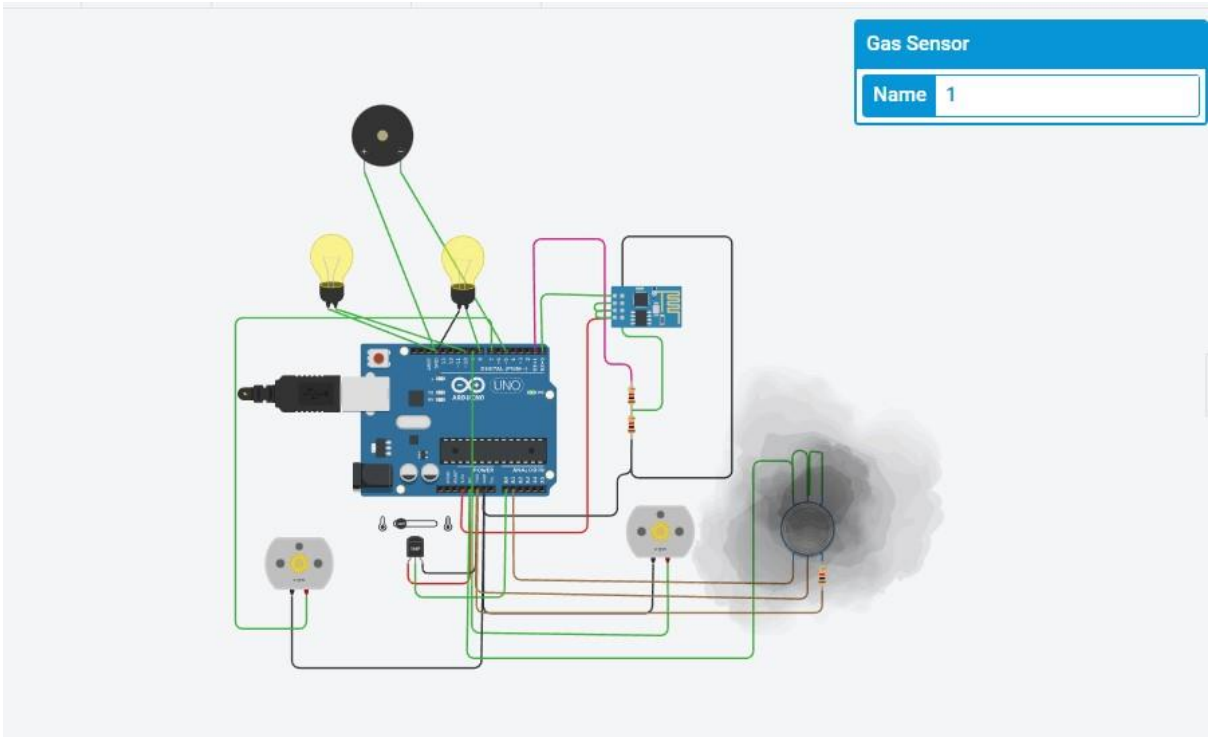
CODE:

```
void setup()
{   pinMode(A0, INPUT);
pinMode(A1,INPUT);
pinMode(9, OUTPUT);
pinMode(8, OUTPUT);
pinMode(7, OUTPUT);
pinMode(10, OUTPUT);
  Serial.begin(9600);
}

void loop() {    int
melody = 150;

  int MQ2pin = A1;

  while (1 != 0) {

    int sensorValue = analogRead(MQ2pin);

    if(sensorValue >= 200){
tone(5, melody) ;
Serial.print(sensorValue);
    Serial.println(" SMOKE DETECTED");     }else{
      digitalWrite(5,LOW);
Serial.print(sensorValue);
                Serial.println("NO SMOKE DETECTED");
```

```
    }
    if (-40 + 0.488155 * (analogRead(A0) - 20) < 30) {
if (-40 + 0.488155 * (analogRead(A0) - 20) < 20) {
digitalWrite(9, LOW);         digitalWrite(8, HIGH);
digitalWrite(7, LOW);         digitalWrite(10, HIGH);
      } else {
digitalWrite(9, LOW);
digitalWrite(8, LOW);
digitalWrite(10, HIGH);
digitalWrite(7, LOW);
      }
    } else {       if (-40 + 0.488155 * (analogRead(A0) - 20) > 30 && -40 +
0.488155 *
(analogRead(A0) - 20) < 40) {
digitalWrite(9, HIGH);
digitalWrite(10, LOW);
digitalWrite(8, LOW);         digitalWrite(7,
LOW);
      } else {
digitalWrite(9, HIGH);
digitalWrite(8, LOW);
digitalWrite(7, HIGH);
digitalWrite(10, LOW);
      }
    }
  }
```

-40 + 0.488155 * (analogRead(A0) - 20); delay(10); // Delay a little bit to improve simulation performance }

OUTPUT/SIMULATION:



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