ASSIGNMENT 1:

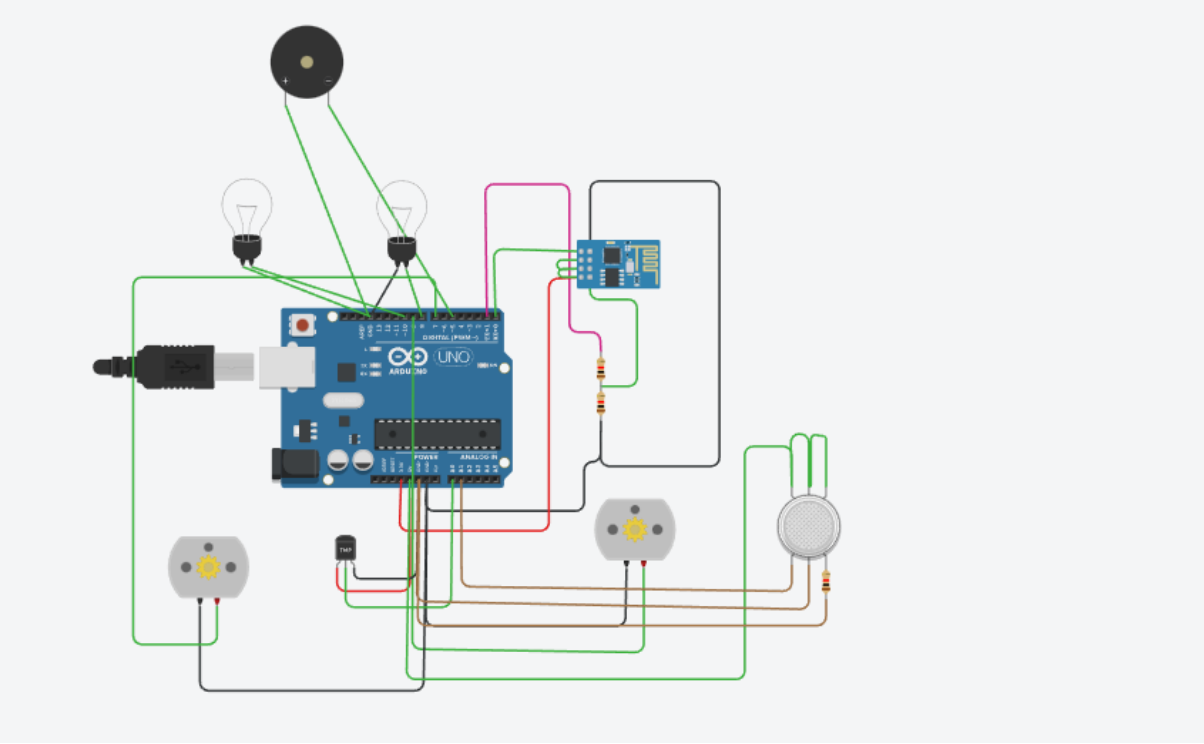
SMART HOME AUTOMATION WITH SENSORS USING

ARDUINO UNO

SOFTWARE COMPONENT:

TINKERCAD

CIRCUIT DESIGN:



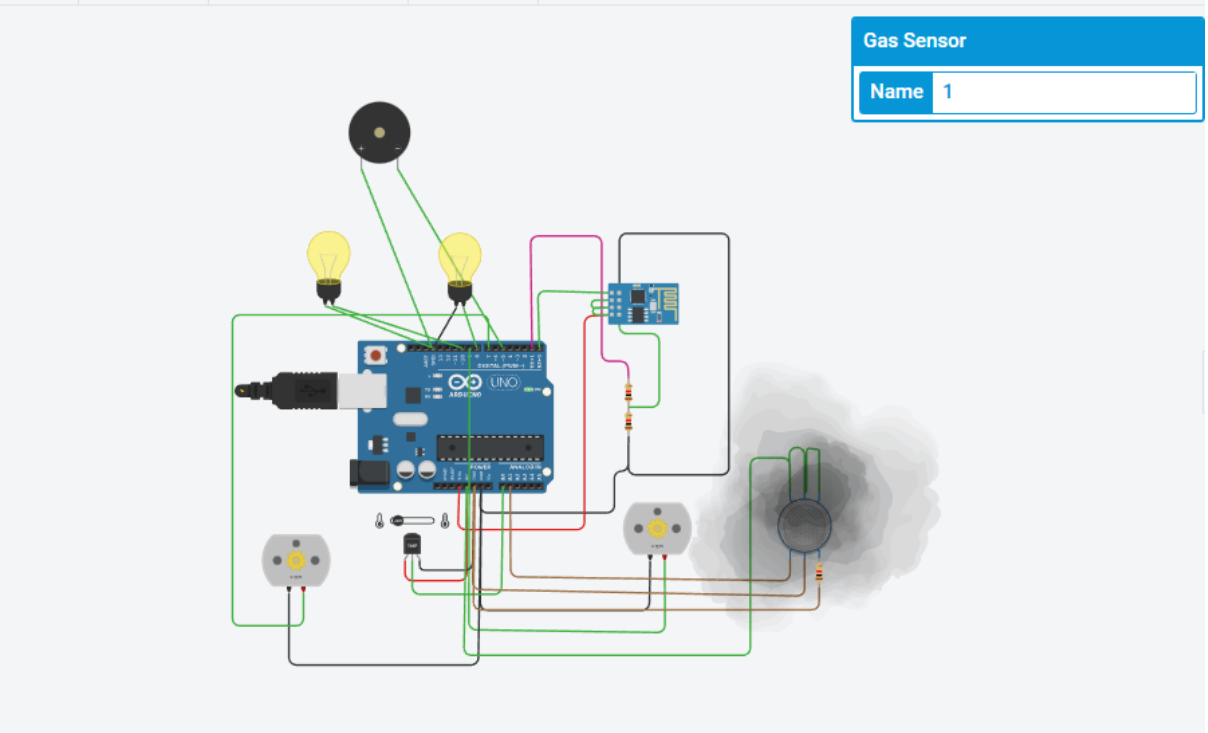
CODE:

```
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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