

# **ASSIGNMENT 1:**

## **SMART HOME AUTOMATION WITH SENSORS**

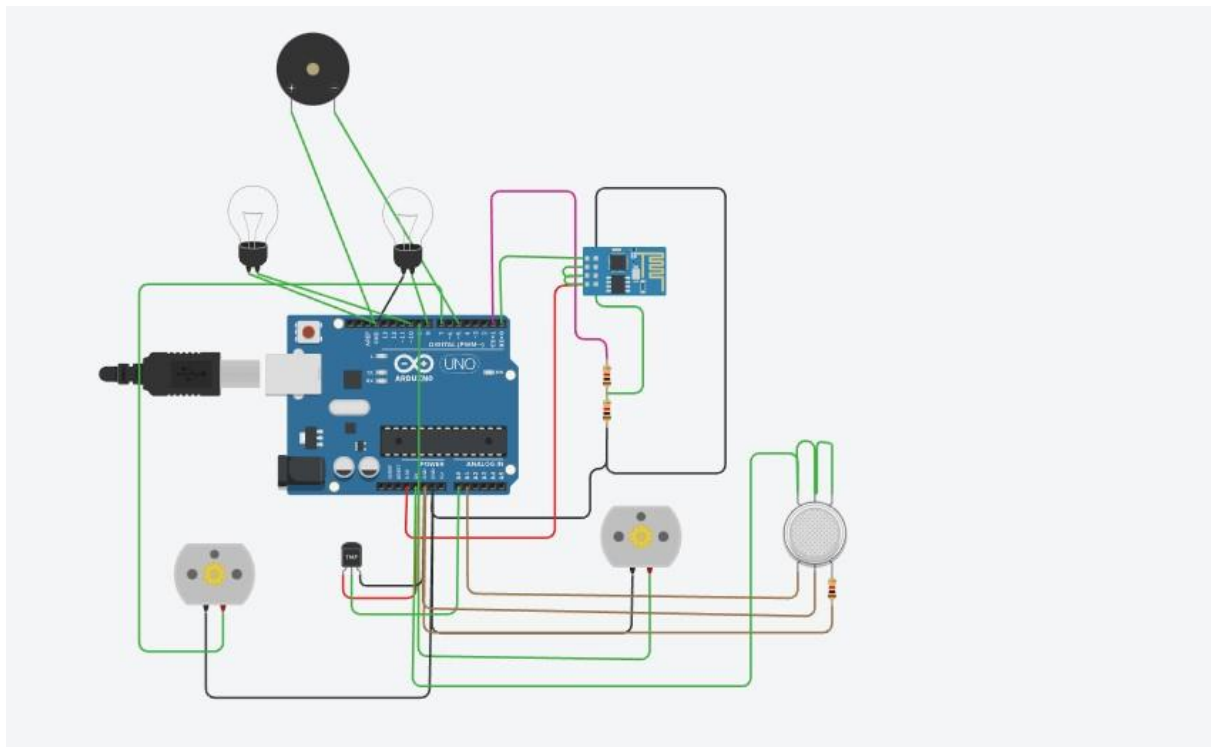
### **USING**

### **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");
```

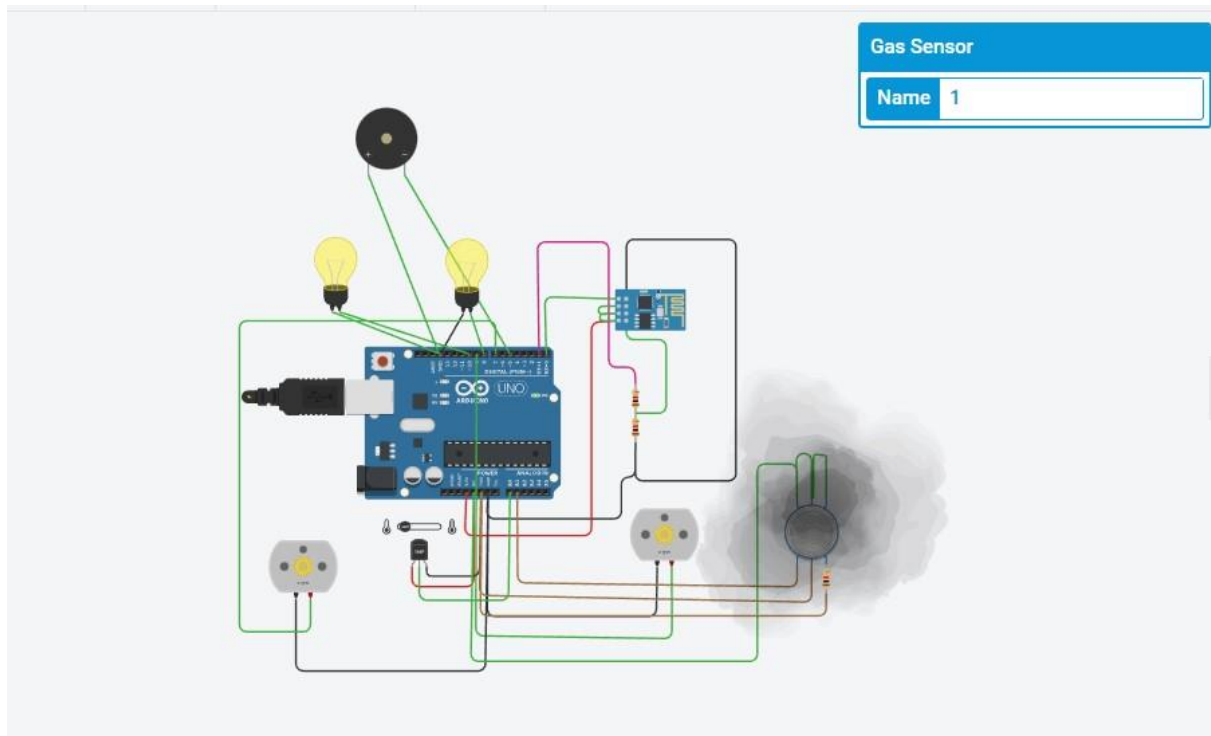
```

    }
    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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