Assignment –1

Home Automation using Tinkercad

| Date	9 September 2022
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Maximum Marks	2 Marks

Question – 1

Make a home automation with Tinkercad, add 2 – 3 sensors, led, buzzers and make a common code and circuit, multiple detections and alarms should be given.

Solution:

Simulation link:

https://www.tinkercad.com/things/lrj2W9CFJWC-assignment-1/editel?sharecode=PB5pFCq8U7HO4dEB9nuO9_dvdwJEk2di6JIKWLgpQvM

Circuit :
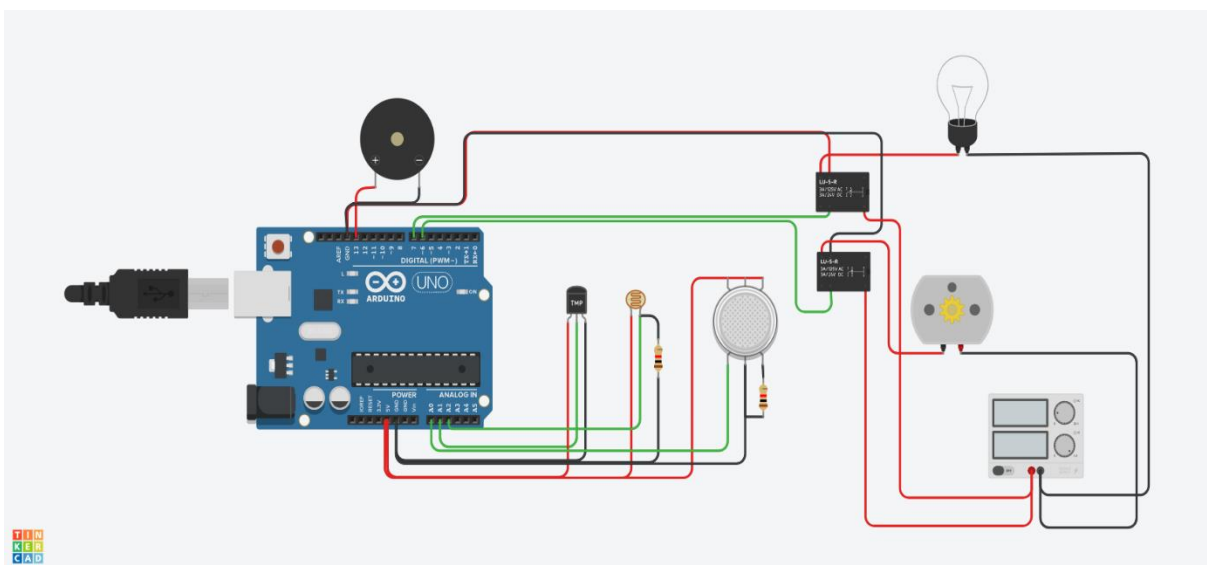
Code:

```
#define gas A0

#define tmp A1

#define LDR A2

#define buz 13

#define bulb 7

#define motor 6

int gas_val = 0;

double tmp_val = 0;

int LDR_val = 0;


void setup()

{

  Serial.begin(9600);


  pinMode(bulb,OUTPUT);

  pinMode(motor,OUTPUT);

  pinMode(buz,OUTPUT);

}


void loop()

{

  gas_val = analogRead(A0);

  Serial.print(" gas value : ");

  Serial.println(gas_val);

  if (gas_val > 200)

   {

    digitalWrite(buz,HIGH);

    Serial.println("gas detected");

   }

   else

   {

    digitalWrite(buz,LOW);

    Serial.println("gas  not detected");
```

```cpp
  }

  LDR_val = analogRead(A2);
  Serial.print(" LDR value : ");
  Serial.println(LDR_val);
   if (LDR_val < 500)
    {
     digitalWrite(bulb,HIGH);
     Serial.println("light is on");
    }
   else
    {
     digitalWrite(bulb,LOW);
     Serial.println("light is off");
    }



  double t = analogRead(A1);
  tmp_val = (((t/1024)*5)-0.5)*100;
  Serial.print(" temperature : ");
  Serial.println(tmp_val);

  if (tmp_val > 70)
   {
    digitalWrite(motor,HIGH);
    Serial.print("window opened");
   }
   else
   {
    digitalWrite(motor,LOW);
    Serial.println("window closed");
   }
  delay(1000);

}
```