

Assignment –1

Home Automation using Tinkercad

Date	9 September 2022
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Maximum Marks	2 Marks

Question – 1

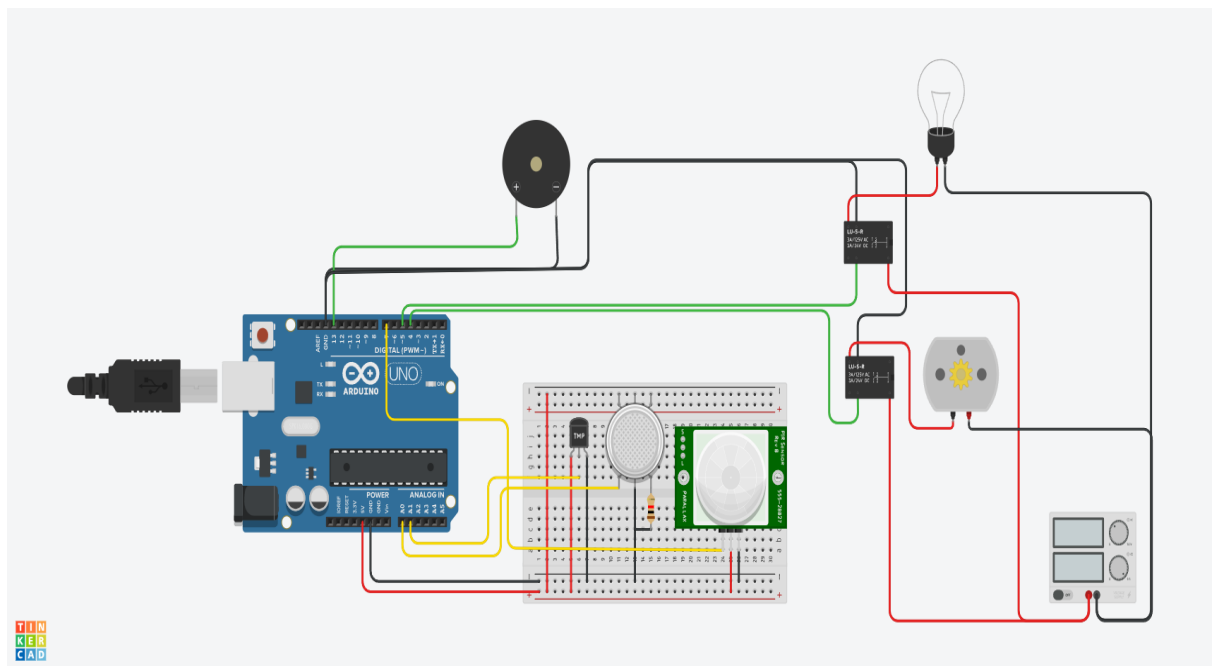
Make a home automation with Tinkercad, add 2 – 3 sensors, led, buzzers and make a common code and circuit, multiple detections and alarms should be given.

Solution:

Simulation link:

https://www.tinkercad.com/things/18SWnnqVxkr-amazing-bombul/editel?sharecode=VZQIMnuQK1ppCMdVZTEuWQrImKfsUPrWGFbUeLf8_eg

Circuit :



Code:

```
#define gas A0
#define tmp A1
#define PIR 7
#define buz 13
#define bulb 5
#define motor 4

int gas_val = 0;
double tmp_val = 0;
int PIR_val = 0;

void setup()
{
    Serial.begin(9600);
    pinMode(PIR,INPUT);
    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");
    }
}
```

```
}  
PIR_val = digitalRead(7);  
Serial.print(" PIR value : ");  
Serial.println(PIR_val);  
if (PIR_val == 1)  
{  
    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);  
}
```