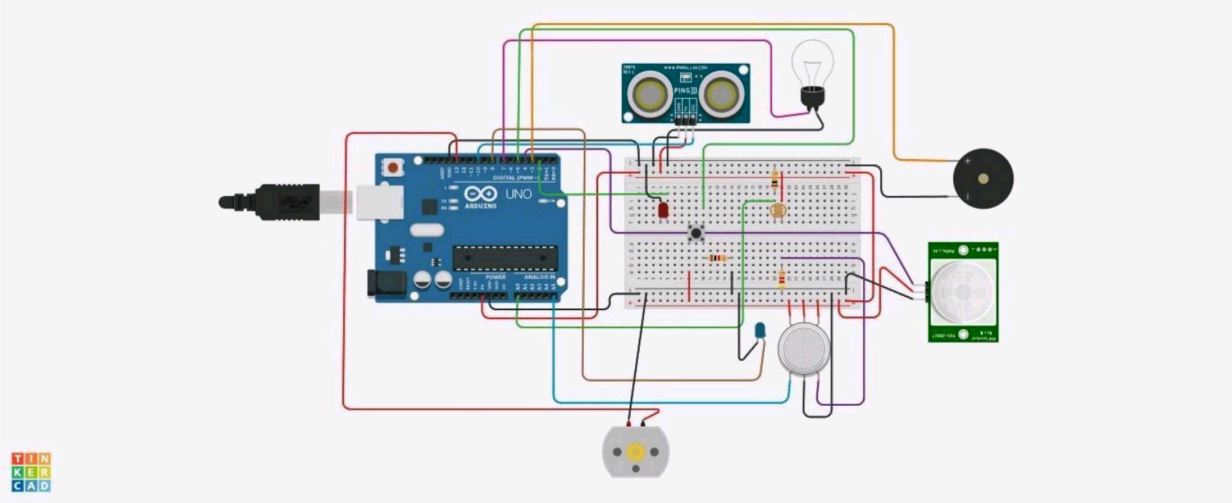
Assignment 1 :

smart home with two sensors and led, buin Tinkercad

https://www.tinkercad.com/things/leAfHFjWkij-mighty-juttuli/editel?tenant=circuits

Circuit diagram :



Arduino Uno Code :

```
const int pingPin =
10; const int ledUS =
2; const int light = 7;
const int pir = 4;
#define photoSensor
A0 #define buzzer 3
int  const  PINO_SGAS  =
A5; int const ledGas = 8;
int const button = 5;
int  const  motor  =
13; void setup()
{
 pinMode(ledUS, OUTPUT);
 pinMode(light, OUTPUT);
 pinMode(buzzer,
 OUTPUT);
```

```
 pinMode(ledGas, OUTPUT);
 pinMode(motor, OUTPUT);
 pinMode(pir, INPUT);
 pinMode(button, INPUT);
 pinMode(photoSensor,
 INPUT); Serial.begin(9600);
}
void loop()
{
 long duration, cm;
 int valLight =
 analogRead(photoSensor); int valPIR=
 digitalRead(pir);
 int valGAS = analogRead(PINO_SGAS);
 valGAS = map(valGAS, 300, 750, 0,
 100);
 int valBt = digitalRead(button);
 pinMode(pingPin, OUTPUT);
 digitalWrite(pingPin, LOW);
 delayMicroseconds(2);
 digitalWrite(pingPin, HIGH);
 delayMicroseconds(5);
 digitalWrite(pingPin, LOW);
 pinMode(pingPin, INPUT);
 duration = pulseIn(pingPin,
 HIGH);
 cm =
 microsecondsToCentimeters(duration);
 if(cm < 336){
  digitalWrite(ledUS, HIGH);
 }else{
```

```
  digitalWrite(ledUS, LOW);
}
```

```
 if(valLight < 890){
  digitalWrite(light,
  HIGH);
 }else{
  digitalWrite(light, LOW);
 }
 if(valPIR == 1){
  digitalWrite(buzzer,
  HIGH);
 }else{
  digitalWrite(buzzer, LOW);
 }
 if(valBt == 1){
  digitalWrite(motor, HIGH);
 }else{
  digitalWrite(motor, LOW);
 }
 if(valGAS > 20){
  digitalWrite(ledGas,
  HIGH);
 }else{
  digitalWrite(ledGas, LOW);
 }
 Serial.print(valPIR)
 ;
 Serial.println();
}
long microsecondsToCentimeters(long microseconds)
 { return microseconds / 29 / 2;
}
```