

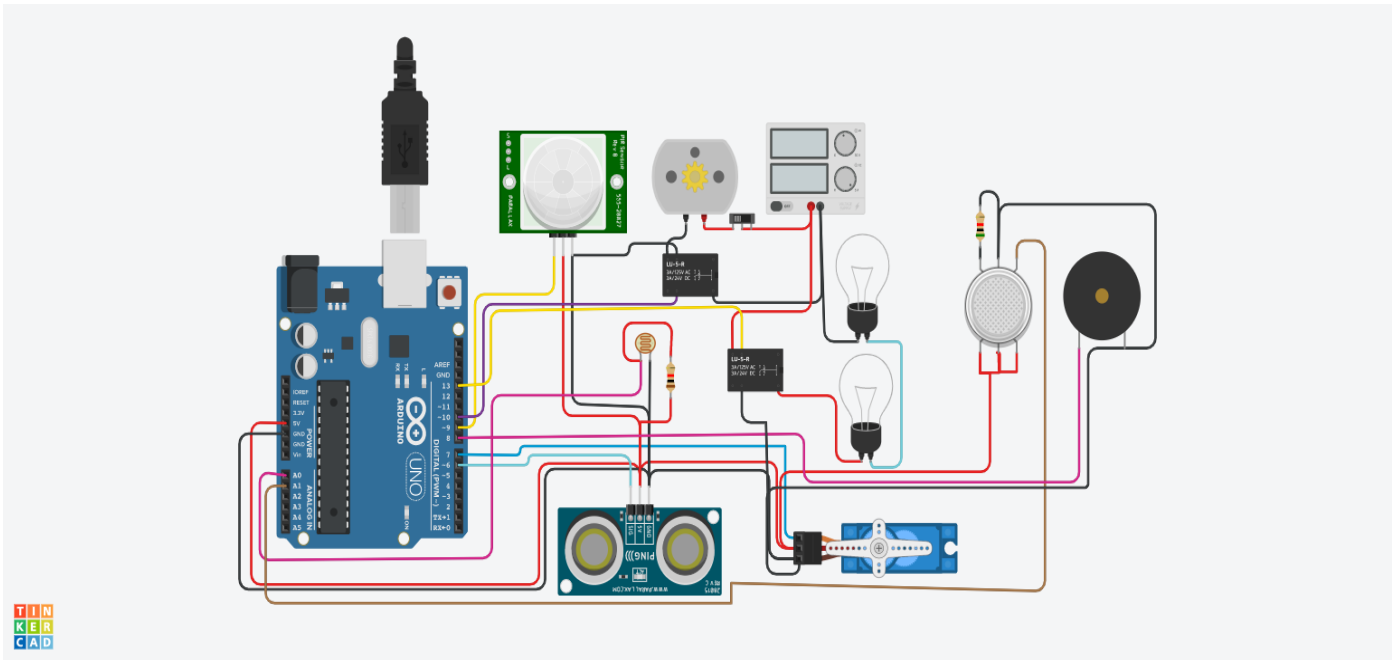
Assignment 1

Date	28 October 2022
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Question

Build a smart home in Thinkercad with 2 sensors, an Led, buzzer and submit it.

Circuit



Code:

```
#include <LiquidCrystal.h>

LiquidCrystal lcd(12, 13, 11, 10, 9, 8);

int pirPin=7;

int pirInput=0;

int bulbPin=6;

int photoValue=0;

int tempReading=0,temp1=0,temperature=0;

int fanPin=5;

int gasReading=0;

int greenLed=4;

int yellowLed=3;

int redLed=2;
```

```

int piezoPin=0;

void scrollScreenSaver() {

lcd.clear() ;

lcd.setCursor(15, 0);

lcd.print("Welcome");

lcd.setCursor(15, 1);

lcd.print("to my home");

for (int positionCounter = 0; positionCounter < 22; positionCounter++) {

lcd.scrollDisplayLeft();

delay(50);

}

}

void setup()

{

lcd.begin(16, 2);

lcd.print("hello, world!");

pinMode(pirPin, INPUT);

pinMode(bulbPin, OUTPUT);

pinMode(greenLed,OUTPUT);

pinMode(yellowLed,OUTPUT);

pinMode(redLed,OUTPUT);

pinMode(piezoPin,OUTPUT);

Serial.begin(9600);

}

void loop()

{

lcd.setCursor(0, 1);

lcd.print(millis() / 1000);

pirInput=digitalRead(pirPin);

photoValue=analogRead(A0);

Serial.println(photoValue);

tempReading=analogRead(A1);

temperature=(5000.0/1024.0*tempReading/10.0);

Serial.println(temperature);

```

```

gasReading=analogRead(A2);
Serial.println(gasReading);
Serial.println(" .....");
digitalWrite(greenLed,gasReading>100 ? HIGH : LOW);
digitalWrite(yellowLed,gasReading>200 ? HIGH : LOW);
digitalWrite(redLed,gasReading>300 ? HIGH : LOW);
if(pirInput==HIGH)
{
  lcd.clear();
  lcd.setCursor(0,0);
  lcd.print("Motion Detected");
  if(photoValue<300)
  {
    digitalWrite(bulbPin,HIGH);
    lcd.setCursor(0,1);
    lcd.print("Light is on");
    delay(1000);
  }
  if(temperature>25)
  {
    digitalWrite(fanPin,HIGH);
    lcd.setCursor(0,1);
    lcd.print(" ");
    lcd.setCursor(0,1);
    lcd.print("Fan is on");
    delay(1000);
  }
}
else
{
  scrollScreenSaver() ;
}
/*digitalWrite(13, HIGH);
delay(1000);

```

```
digitalWrite(13, LOW);
```

```
delay(1000);
```

```
}
```

Footer