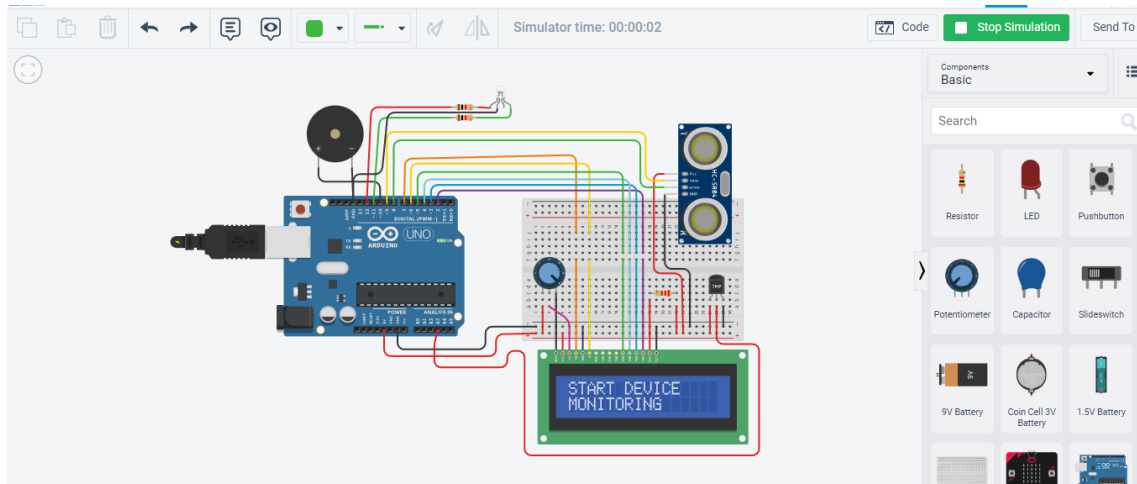# Assignment -1

Design a TinkerCad Circuit for Smart Home

PROGRAM

```
#include <LiquidCrystal.h>

LiquidCrystal lcd(7,6, 5, 4, 3, 2);

#define echoPin 8

#define trigPin 9


long duration;

int distance;


void setup()

{

 pinMode(10,OUTPUT);

 lcd.begin(16, 2);

 lcd.setCursor(0,0);

 lcd.print("BELINDA");
```

```arduino
  lcd.setCursor(0,1);

  lcd.print("PROJECT 1");

  delay(1000);

  lcd.clear();

  lcd.setCursor(0,0);

  lcd.print("START DEVICE ");

  lcd.setCursor(0,1);

  lcd.print("MONITORING");

  delay(1000);

  lcd.clear();

  pinMode(echoPin,INPUT);

  pinMode(trigPin,OUTPUT);

  pinMode(10,OUTPUT);

  pinMode(11,OUTPUT);

  pinMode(12,OUTPUT);

  Serial.begin(9600);

 }


void loop()
{
  digitalWrite(trigPin, LOW);

  delayMicroseconds(2);

  // Sets the trigPin HIGH (ACTIVE) for 10 microseconds

  digitalWrite(trigPin, HIGH);

  delayMicroseconds(10);

  digitalWrite(trigPin, LOW);

  // Reads the echoPin, returns the sound wave travel time in microseconds

  duration = pulseIn(echoPin, HIGH);

  // Calculating the distance
```

```arduino
distance = duration * 0.034 / 2;

int signal=analogRead(A3);
float voltage=(signal*5.0)/1024;
float temC=(voltage-0.5)*100;
lcd.setCursor(0,0);
lcd.print("Temperature:");
lcd.print(temC);//temprature moniter

Serial.print("Distance: ");
Serial.print(distance);
Serial.println(" cm");
lcd.setCursor(0,1);
lcd.print("O-distance:");
lcd.print(distance);

if (temC>100){
digitalWrite(12,HIGH);
digitalWrite(10,HIGH);
}
else{
digitalWrite(12,LOW);
digitalWrite(10,LOW);
digitalWrite(11,HIGH);
}
 if (distance<100){
digitalWrite(12,HIGH);
digitalWrite(10,HIGH);
```

```
 }
 else{
 digitalWrite(12,LOW);
 digitalWrite(10,LOW);
 digitalWrite(11,HIGH);
}
}
```