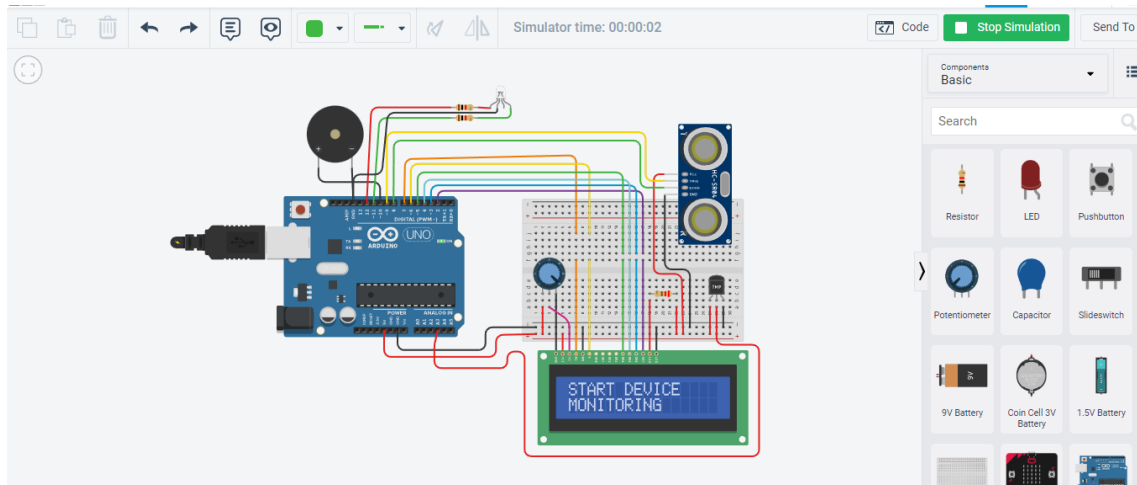# Assignment -1

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("KARTHIGA");
```

```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
```

```
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);
}
}
```