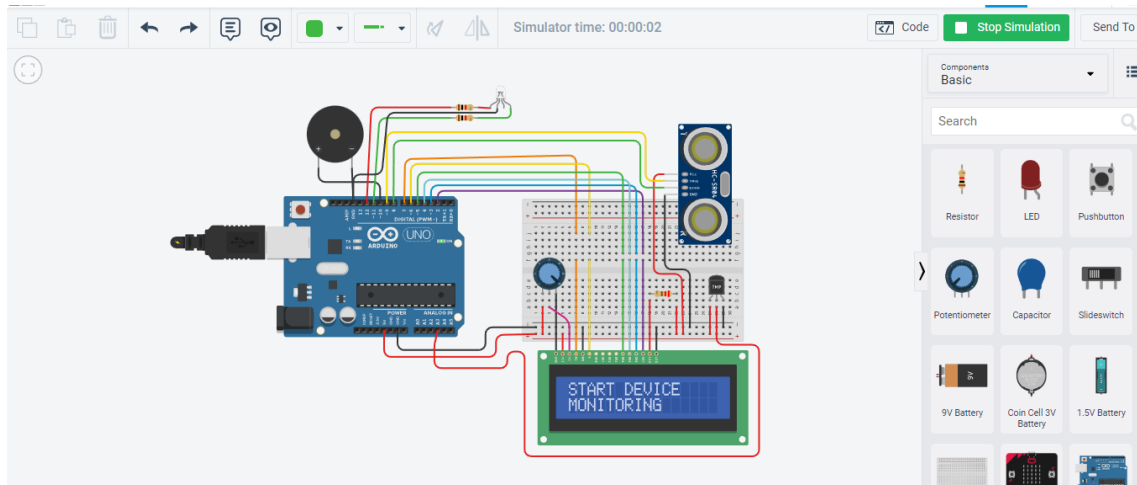


# Assignment -1

## 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("OVIYA");
```

```
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 monitor
```

```
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);  
}  
}
```