DOOR BELL SENSOR

Project Title: Door Bell Sensor

Project Lead: Bhakti Harale

Learning Objective:

- Simulate LDR and Thermistor workings.
- Use Tinkercad for electronics and Arduino projects.

Required Components:

1.Arduino Uno (virtual, in Tinkercad)

2.Breadboard (virtual)

3.Connecting Wires

4.Buzzer

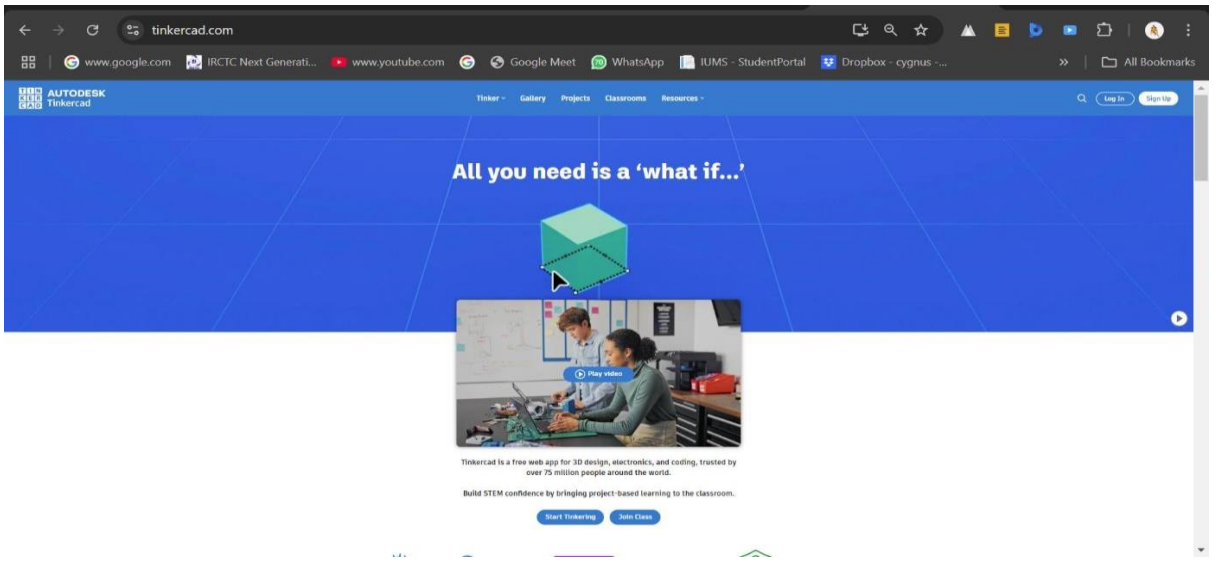
5.Ultrasonic sensor

6.Led

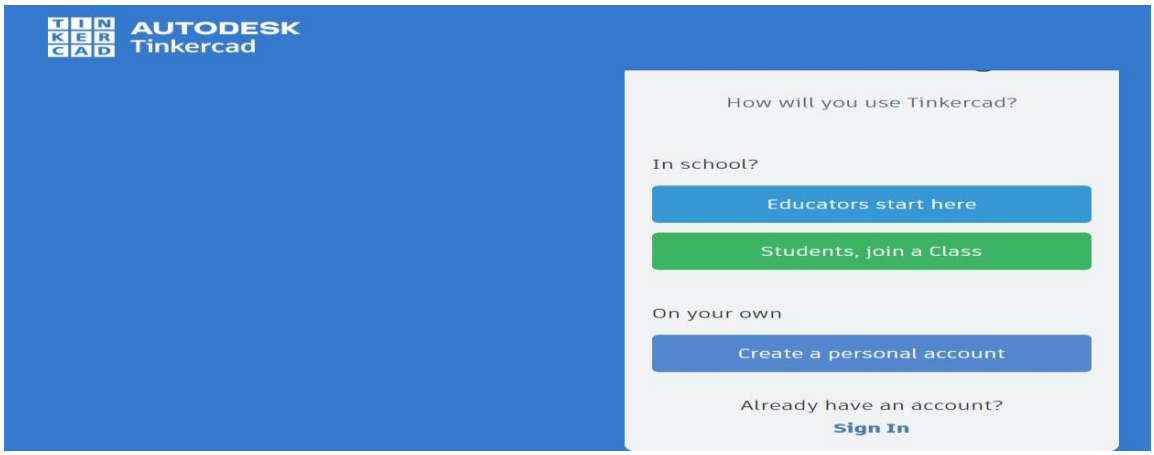
Step-by-Step Guide

Step 1: Set up Your Tinkercad Project

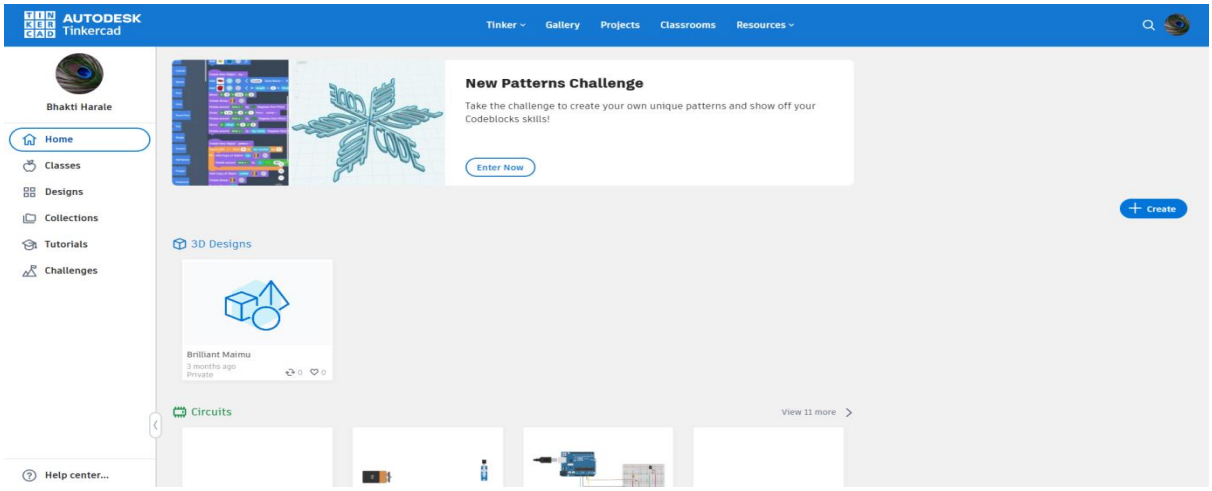
1. Open Tinkercad in your webbrowser.www.tinkercad.com)



2.Create a free account or log in if you already have one.



3.Select **"Circuits"** from the Tinkercad dashboard.



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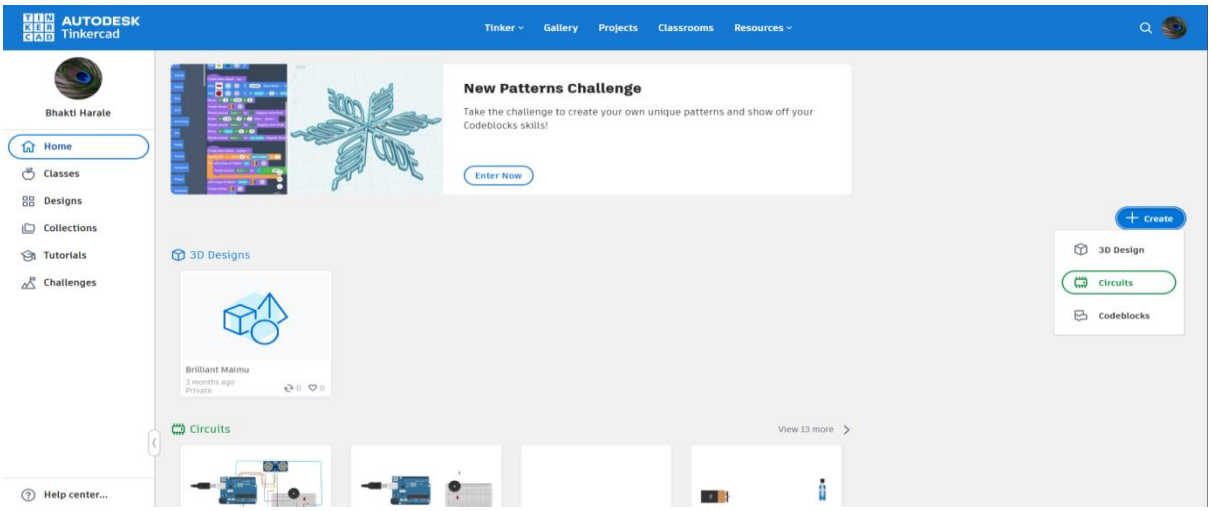
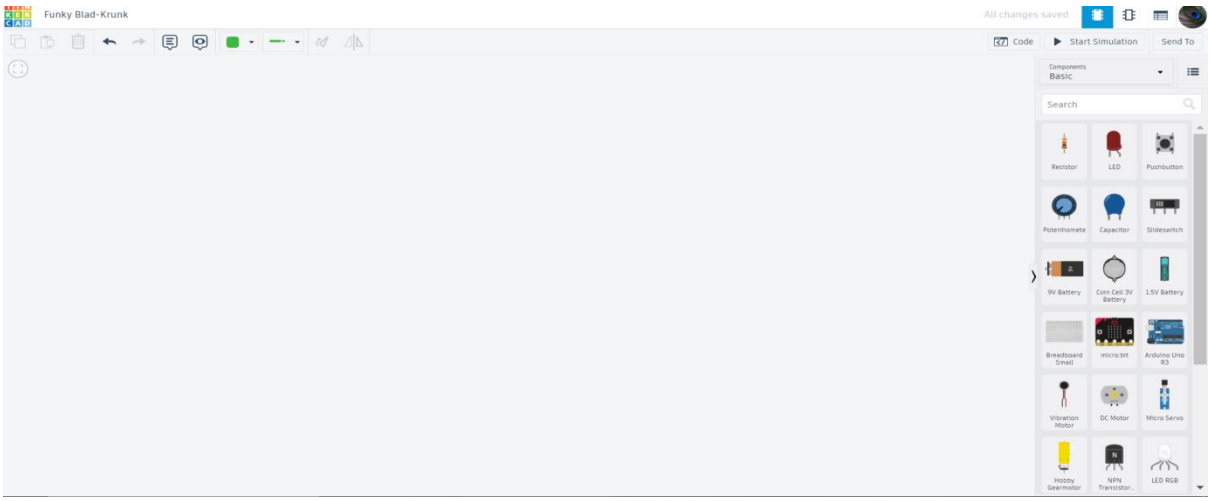
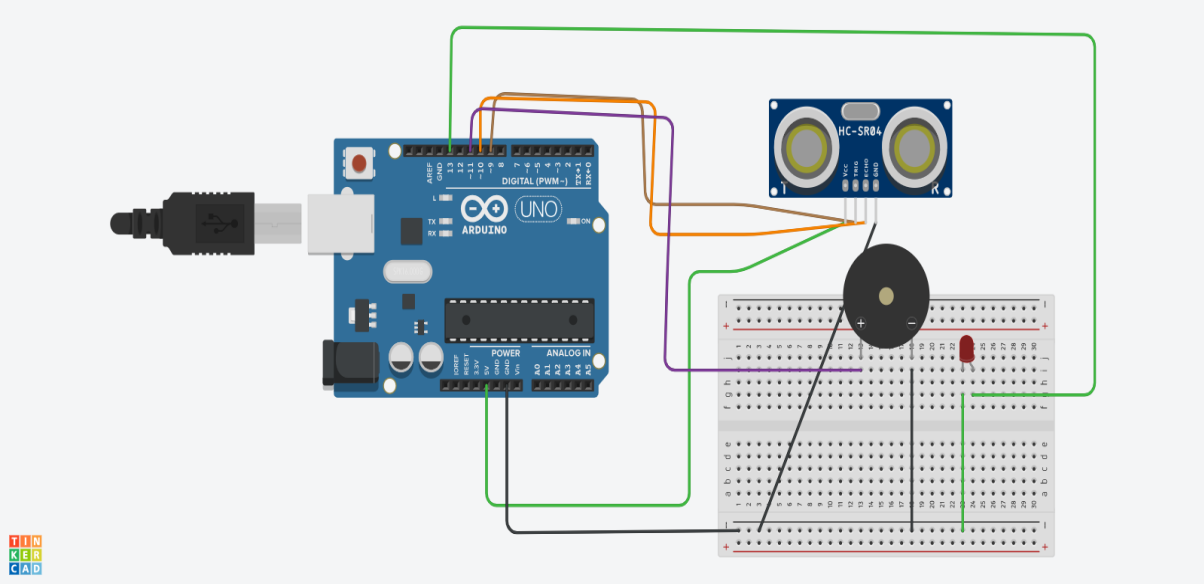
4.Create New Circuit" to start a new project.





Circuit Diagram:



Code:

```
const int trigPin = 9;
const int echoPin = 10;
const int buzzer = 11;
const int ledPin = 13;
long duration;
int distance;
int safetyDistance;


void setup() {
pinMode(trigPin, OUTPUT);
pinMode(echoPin, INPUT);
pinMode(buzzer, OUTPUT);
pinMode(ledPin, OUTPUT);
Serial.begin(9600);
}


void loop() {
digitalWrite(trigPin, LOW);
delayMicroseconds(2);

digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
```

```
digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);
distance= duration*0.034/2;

safetyDistance = distance;
if (safetyDistance <= 40){
  digitalWrite(buzzer, HIGH);
  digitalWrite(ledPin, HIGH);
}
else{
  digitalWrite(buzzer, LOW);
  digitalWrite(ledPin, LOW);
}

Serial.print("Distance:50 ");
Serial.println(distance);
}
}


void loop() {
digitalWrite(trigPin, LOW);
delayMicroseconds(2);
```

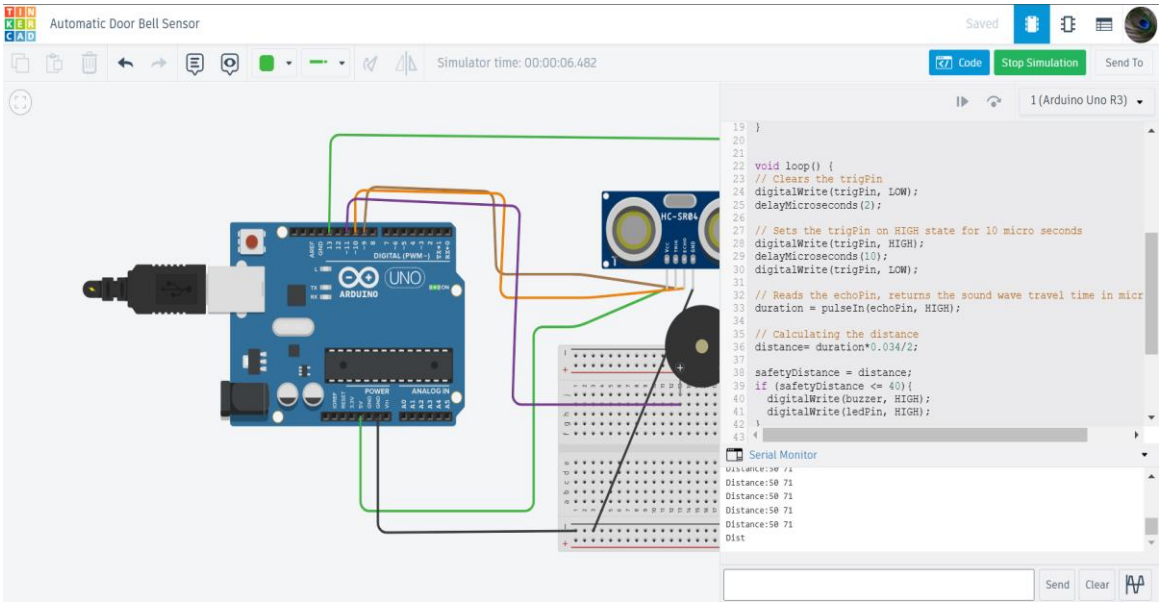
```
digitalWrite(trigPin, HIGH);
delayMicroseconds(10);
digitalWrite(trigPin, LOW);

duration = pulseIn(echoPin, HIGH);
distance= duration*0.034/2;

safetyDistance = distance;
if (safetyDistance <= 40){
  digitalWrite(buzzer, HIGH);
  digitalWrite(ledPin, HIGH);
}
else{
  digitalWrite(buzzer, LOW);
  digitalWrite(ledPin, LOW);
}

Serial.print("Distance:50 ");
Serial.println(distance);
}
```

Output:


Automatic Door Bell Sensor
Saved
Simulator time: 00:00:06.482
Code
Stop Simulation
Send To
1 (Arduino Uno R3)
HC-SR04
ARDUINO
UNO
Serial Monitor
Distance:50 71
Distance:50 71
Distance:50 71
Distance:50 71
Distance:50 71
Dist
Send
Clear