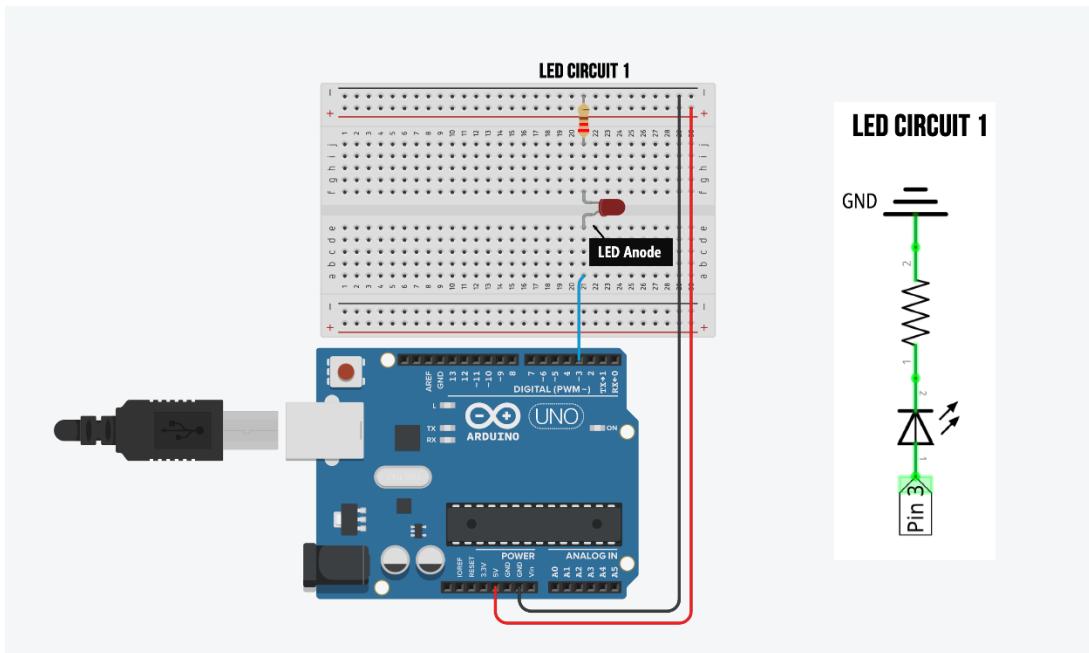


# Basic Tinkercad Project

## Blinking Two LEDs Using Arduino



## Aim

To control two LEDs using an **Arduino Uno** by providing output signals through digital pins.

## Components Required

- Arduino Uno
- Breadboard
- 2 × LEDs
- 2 × Resistors (220Ω or 330Ω)
- Jumper wires
- 9V Battery (or USB power)

## Basic Concept

- Arduino digital pins give **HIGH (5V)** or **LOW (0V)**
- HIGH → LED ON

- LOW → LED OFF
  - Resistor limits current and protects LED
- 

## Pin Connection

LED 1

- Anode (long leg) → **Pin 8**
- Cathode (short leg) → **Resistor** → **GND**

LED 2

- Anode → **Pin 9**
- Cathode → **Resistor** → **GND**

Power

- Arduino powered using:
    - USB cable **or**
    - 9V battery to **VIN** and **GND**
- 

## Step-by-Step in Tinkercad

1. Open **Tinkercad** → Circuits → **Create New**
  2. Place:
    - Arduino Uno
    - Breadboard
    - Two LEDs
    - Two resistors
  3. Connect LEDs to **Pin 8 and Pin 9**
  4. Connect resistors to **GND rail**
  5. Connect Arduino **GND to breadboard GND**
- 

## Arduino Code

```
int led1 = 8;
int led2 = 9;

void setup()
{
    pinMode(led1, OUTPUT);
    pinMode(led2, OUTPUT);
}
```

```
void loop()
{
    digitalWrite(led1, HIGH);
    digitalWrite(led2, LOW);
    delay(1000);

    digitalWrite(led1, LOW);
    digitalWrite(led2, HIGH);
    delay(1000);
}
```

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## Working

- LED1 glows for 1 second
  - LED2 glows for next 1 second
  - They blink **alternatively**
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## Output

- Two LEDs blink one after another continuously.