

**Program no** 04

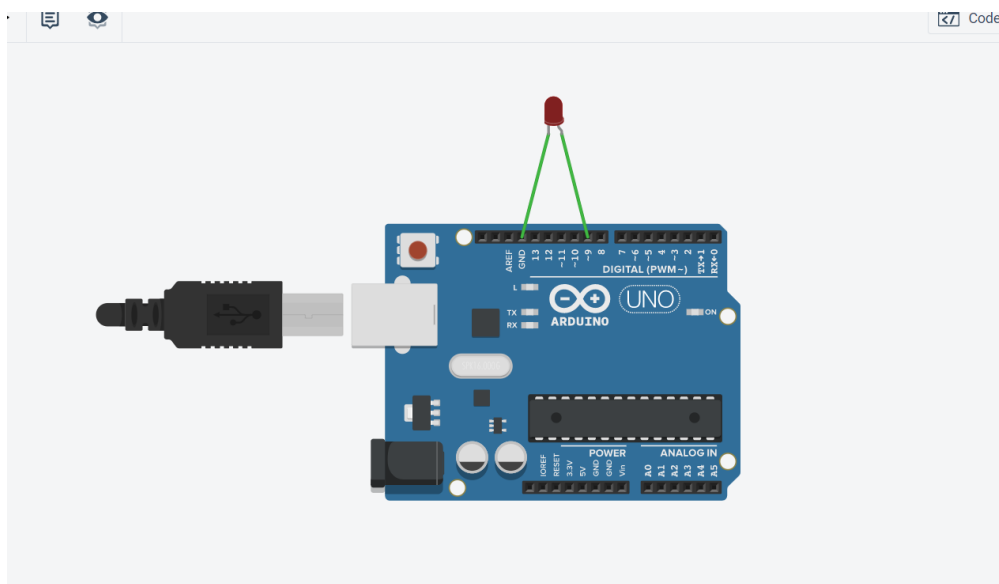
**Program Title** LED Fading

**Aim**

**Hardware Required**

- Arduino Board
- Wires
- LED

**Circuit Diagram**



**Code:**

Pranod D.Y  
IBM19CS405

### Program - 4 LED Fading

```
int brightness = 0;
void setup()
{
    pinMode(9, OUTPUT);
}
void loop()
{
    for (brightness = 0; brightness = 255;
        brightness += 10)
    {
        analogWrite(9, brightness);
        delay(40);
    }
    for (brightness = 255; brightness >= 0;
        brightness -= 10)
    {
        analogWrite(9, brightness);
        delay(40);
    }
}
```

Observation /Output

Circuit design LED feding | Tinke x IOT-LAB/PushButton\_report.pdf x pramoddy/IOT-Lab x +

tinkercad.com/things/0ZDzxcjAkZS-led-feding/editel

LED feding Saved

Simulator time: 00:00:01

Code Stop Simulation Export Share

Text 1 (Arduino Uno R3)

```
1 int brightness=0;
2 void setup()
3 {
4   pinMode(9, OUTPUT);
5 }
6
7 void loop()
8 {
9   for(brightness=0; brightness<=255; brightness+=10)
10  {
11    analogWrite(9,brightness);
12    delay(400);
13  }
14   for(brightness==255; brightness>=0; brightness-=10)
15  {
16    analogWrite(9, brightness);
17    delay(400);
18  }
19 }
```

Serial Monitor

The image shows a Tinkercad workspace with an Arduino Uno R3 board. A red LED is connected to the digital pins: the longer leg (anode) is connected to pin 9, and the shorter leg (cathode) is connected to a ground pin. The code editor on the right contains the following C++ code:

```
1 int brightness=0;
2 void setup()
3 {
4   pinMode(9, OUTPUT);
5 }
6
7 void loop()
8 {
9   for(brightness=0; brightness<=255; brightness+=10)
10  {
11    analogWrite(9,brightness);
12    delay(400);
13  }
14   for(brightness==255; brightness>=0; brightness-=10)
15  {
16    analogWrite(9, brightness);
17    delay(400);
18  }
19 }
```

The Windows taskbar at the bottom indicates the system time is 23:30 on 28-10-2020.