



# **\*JAVA IOT DEVELOPER LAB\***

## **LAB -4**

**SUBMITTED BY:**

**AYUSH KUMAR JHA**

**SAP ID - 500086400**

**Enrollment no - R200220083**

**B.C.A -I.O.T.**

**SUBMITTED TO:**

**Dr. SURBHI SARASWAT**

## Questions :-

1. Make a delay for half a second for one LED.

// C++ code

//

```
int buttonState = 0;
```

```
void setup()
```

```
{
```

```
  pinMode(2, INPUT);
```

```
  pinMode(8, OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
  // read the state of the pushbutton value
```

```
  buttonState = digitalRead(2);
```

```
  // check if pushbutton is pressed. if it is, the
```

```
  // buttonState is HIGH
```

```
  if (buttonState == HIGH) {
```

```
    // turn LED on
```

```
    delay(500);
```

```
    digitalWrite(8, HIGH);
```

```
  } else {
```

```
    // turn LED off
```

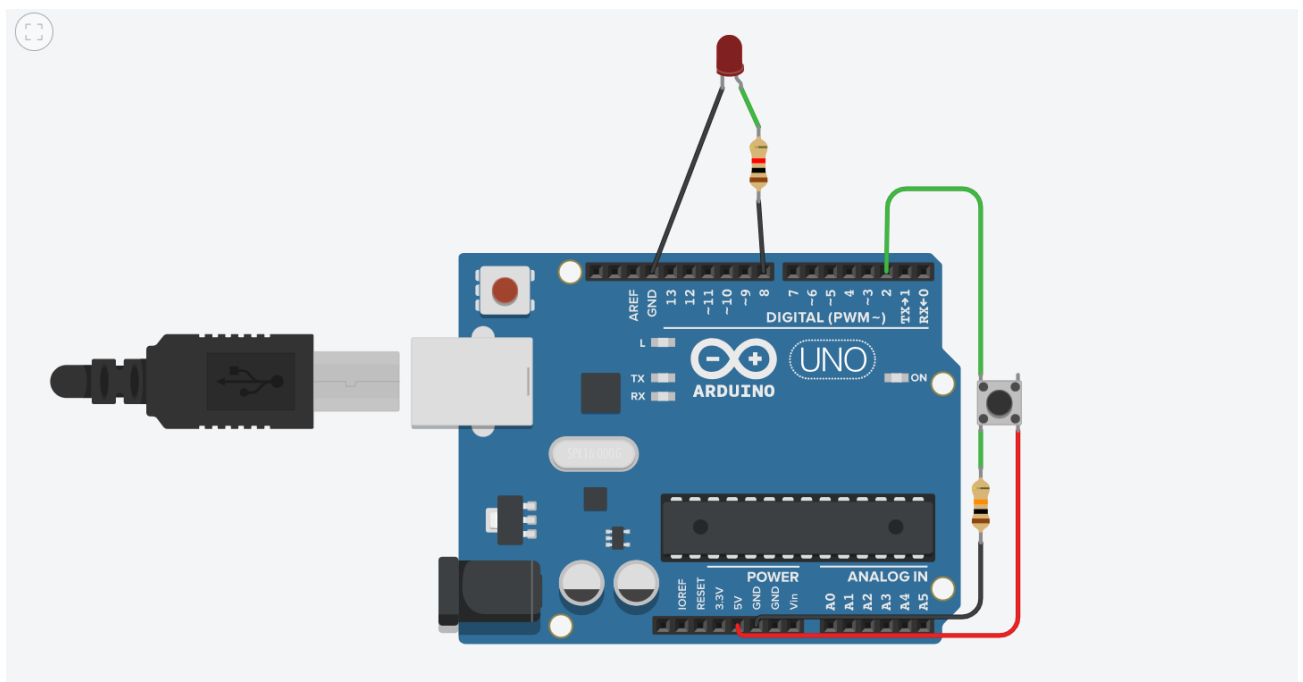
```
    digitalWrite(8, LOW);
```

```
  }
```

```
  // Delay a little bit to improve simulation performance
```

```
  delay(10);
```

```
}
```



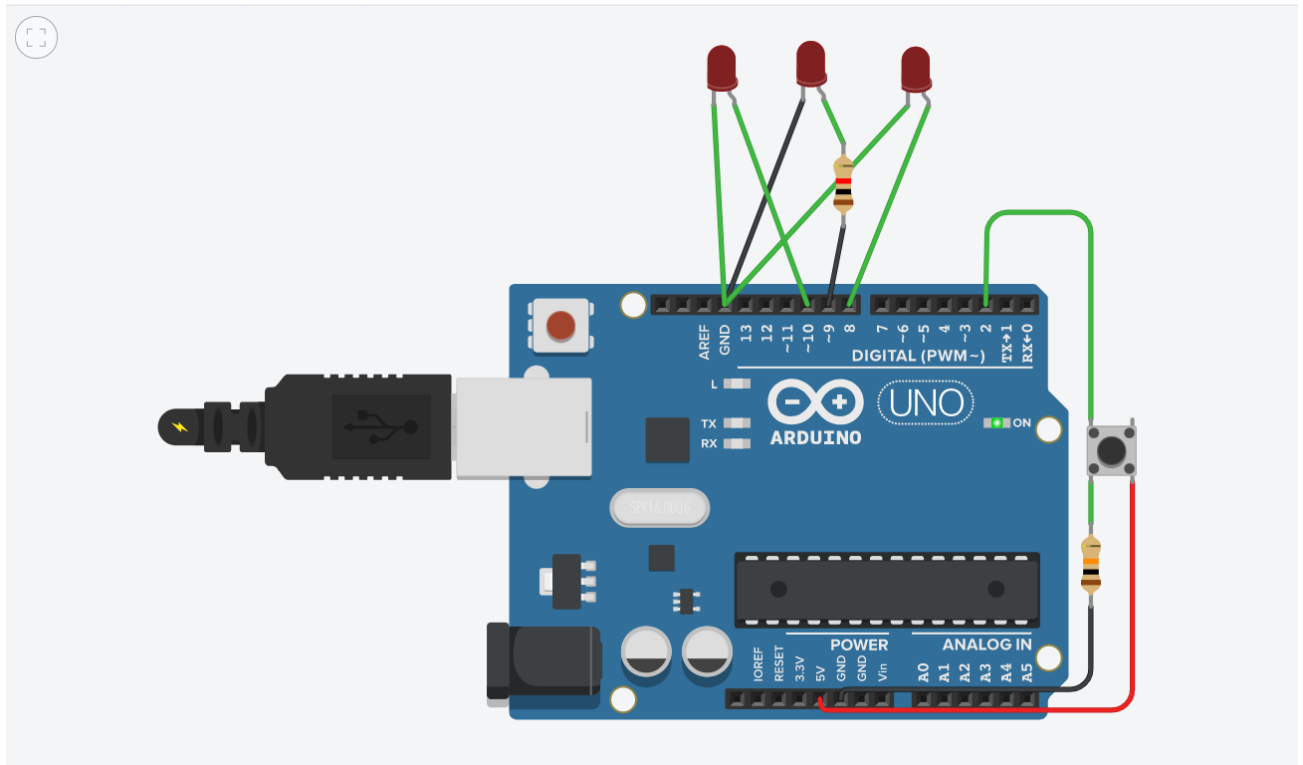
2.Add 3 LED make them blink at the count of 1 2 3.

```
// C++ code
//

int buttonState = 0;

void setup()
{
  pinMode(2, INPUT);
  pinMode(8, OUTPUT);
  pinMode(9, OUTPUT);
  pinMode(10, OUTPUT);
}

void loop()
{
  // read the state of the pushbutton value
  buttonState = digitalRead(2);
  // check if pushbutton is pressed. if it is, the
  // buttonState is HIGH
  if (buttonState == HIGH) {
    // turn LED on
    delay(500);
    digitalWrite(10, HIGH);
    delay(500);
    digitalWrite(10, LOW);
    delay(500);
    digitalWrite(9, HIGH);
    delay(500);
    digitalWrite(9, LOW);
    delay(500);
    digitalWrite(8, HIGH);
    delay(500);
    digitalWrite(8, LOW);
    delay(500);
  } else {
    // turn LED off
    digitalWrite(8, LOW);
    digitalWrite(9, LOW);
    digitalWrite(10, LOW);
  }
  // Delay a little bit to improve simulation performance
  delay(10);
}
```



3. Make a dancing LED configuration.

```
// C++ code
//

int buttonState = 0;

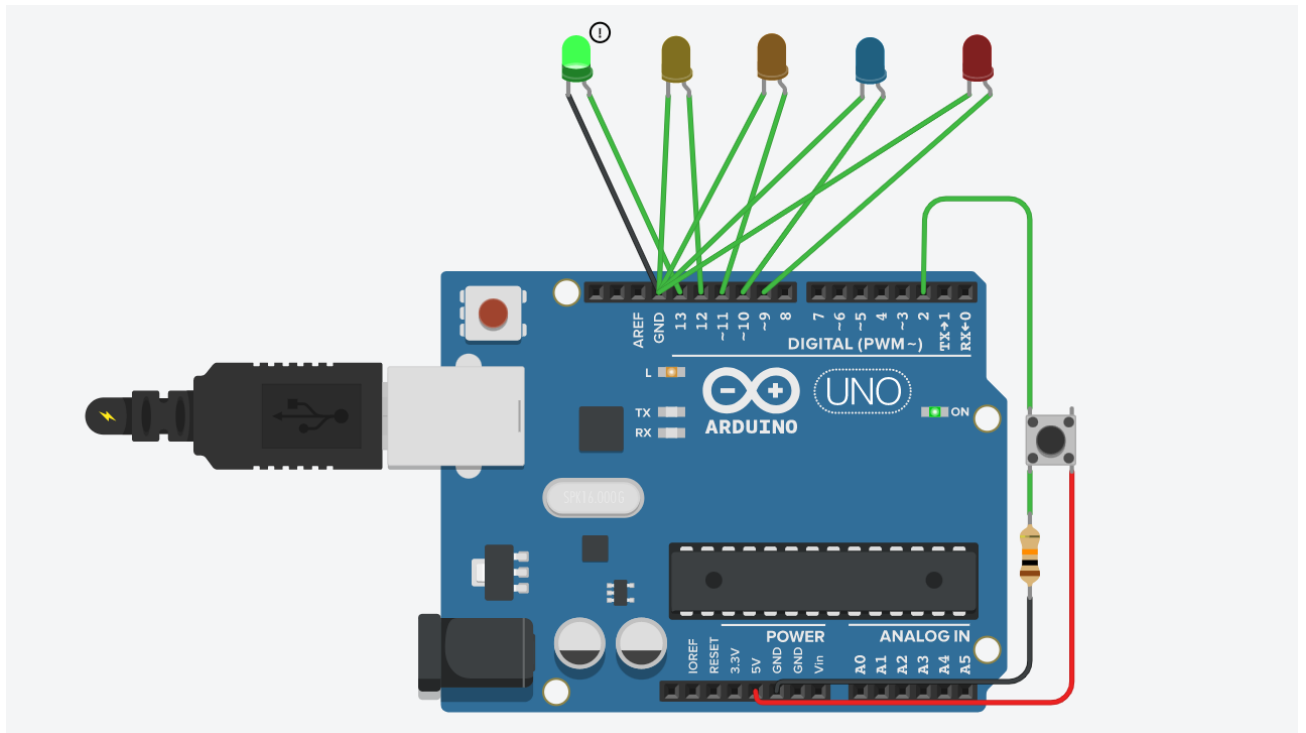
void setup()
{
  pinMode(2, INPUT);
  pinMode(11, OUTPUT);
  pinMode(9, OUTPUT);
  pinMode(10, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
}

void loop()
{
  // read the state of the pushbutton value
  buttonState = digitalRead(2);
  // check if pushbutton is pressed. if it is, the
  // buttonState is HIGH
  if (buttonState == HIGH) {
    // turn LED on
    delay(500);
    digitalWrite(13, HIGH);
    delay(500);
    digitalWrite(13, LOW);
  }
}
```

```

delay(500);
digitalWrite(12,HIGH);
delay(500);
digitalWrite(12,LOW);
delay(500);
digitalWrite(11,HIGH);
delay(500);
digitalWrite(11,LOW);
delay(500);
digitalWrite(10,HIGH);
delay(500);
digitalWrite(10,LOW);
delay(500);
digitalWrite(9,HIGH);
delay(500);
digitalWrite(9,LOW);
delay(500);
} else {
  // turn LED off
  digitalWrite(11, LOW);
  digitalWrite(9,LOW);
  digitalWrite(10,LOW);
  digitalWrite(12,LOW);
  digitalWrite(13,LOW);
}
// Delay a little bit to improve simulation performance
delay(10);
}

```



#### 4.Add RGB LED and test FIVE different colour scheme configuration

```
void setup() {
  pinMode(11, OUTPUT);
  pinMode(10, OUTPUT);
  pinMode(9, OUTPUT);
}
void loop() {
  RGB_color(255, 0, 0); // Red
  delay(1000);
  RGB_color(0, 255, 0); // Green
  delay(1000);
  RGB_color(0, 0, 255); // Blue
  delay(1000);
  RGB_color(255, 255, 125); // Raspberry
  delay(1000);
  RGB_color(0, 255, 255); // Cyan
  delay(1000);
  RGB_color(255, 0, 255); // Magenta
  delay(1000);
  RGB_color(255, 255, 0); // Yellow
  delay(1000);
  RGB_color(255, 255, 255); // White
  delay(1000);
}
void RGB_color(int red_light_value, int green_light_value, int
blue_light_value)
{
  analogWrite(11, red_light_value);
  analogWrite(10, green_light_value);
  analogWrite(9, blue_light_value);
}
```

