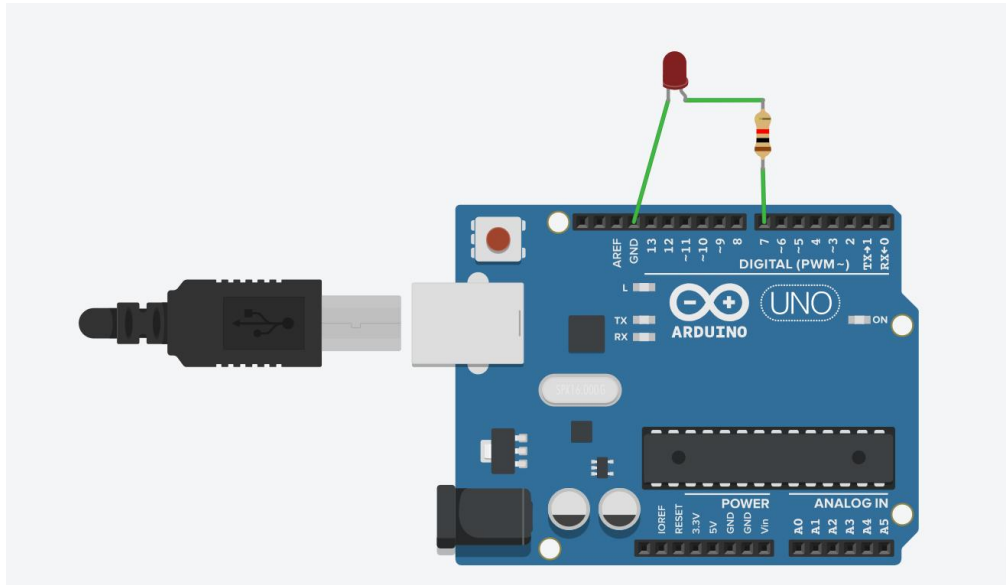


## Practical No. 01

**Title :** To interface external LED with Arduino and write a program to turn ON LED for 1 sec after every 2 seconds.

**Aim :** To study Arduino ON LED and Blink LED

**Circuits :**

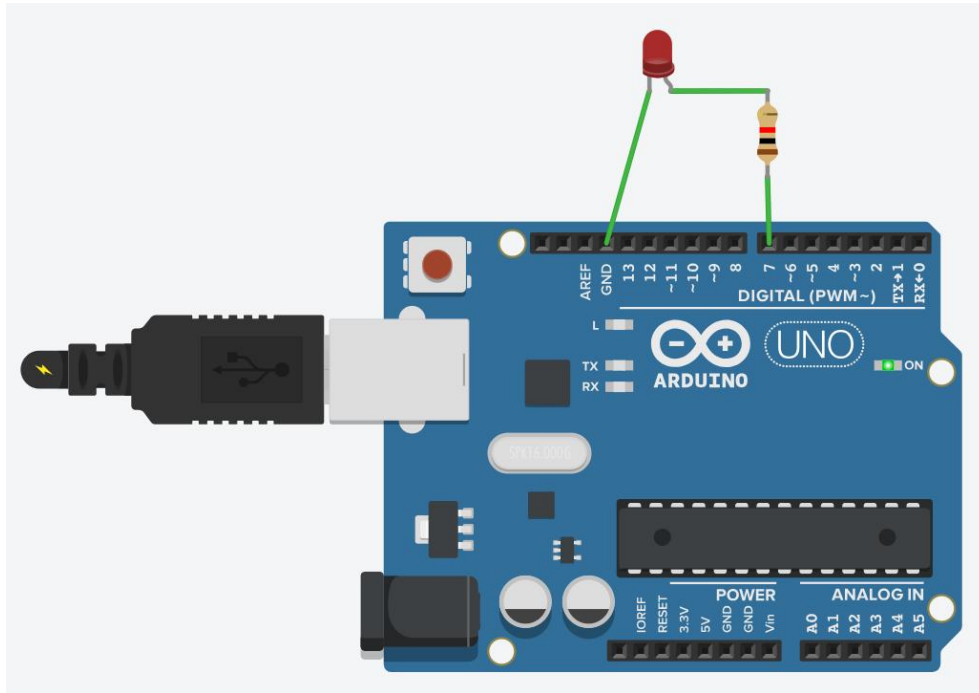


**Code :**

```
void setup()
{
  pinMode(LED_BUILTIN, OUTPUT);
}

void loop()
{
  digitalWrite(7, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(7, LOW);
  delay(1000); // Wait for 1000 millisecond(s)
}
```

## Running Machine :



## Conclusion :

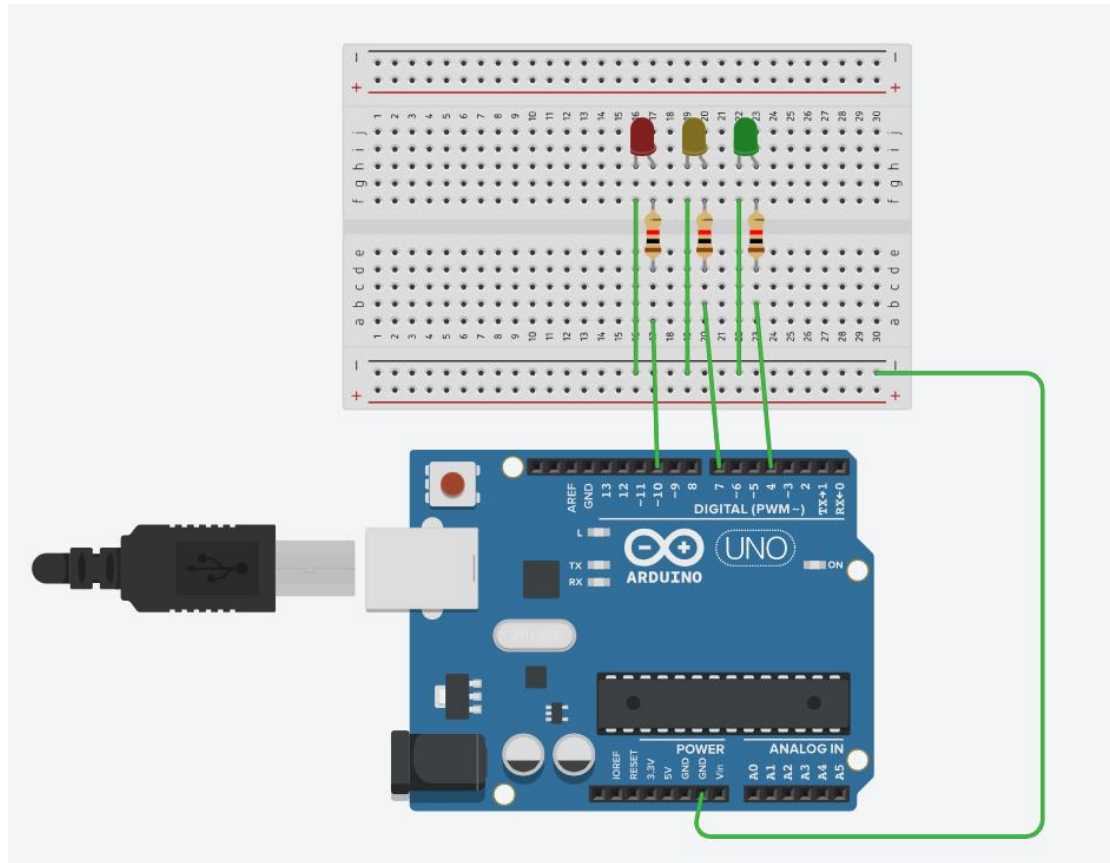
Thus, Learnt how to Led to blink in the Proper way and using resistor and the ARDUINO.

## Practical No. 02

**Title :** To interface 3 LED's with Arduino and write a program to blink 3 LEDs, one at a time, in a back and forth formation.

**Aim :** To blink 3 LEDs, one at a time, in a back and forth formation.

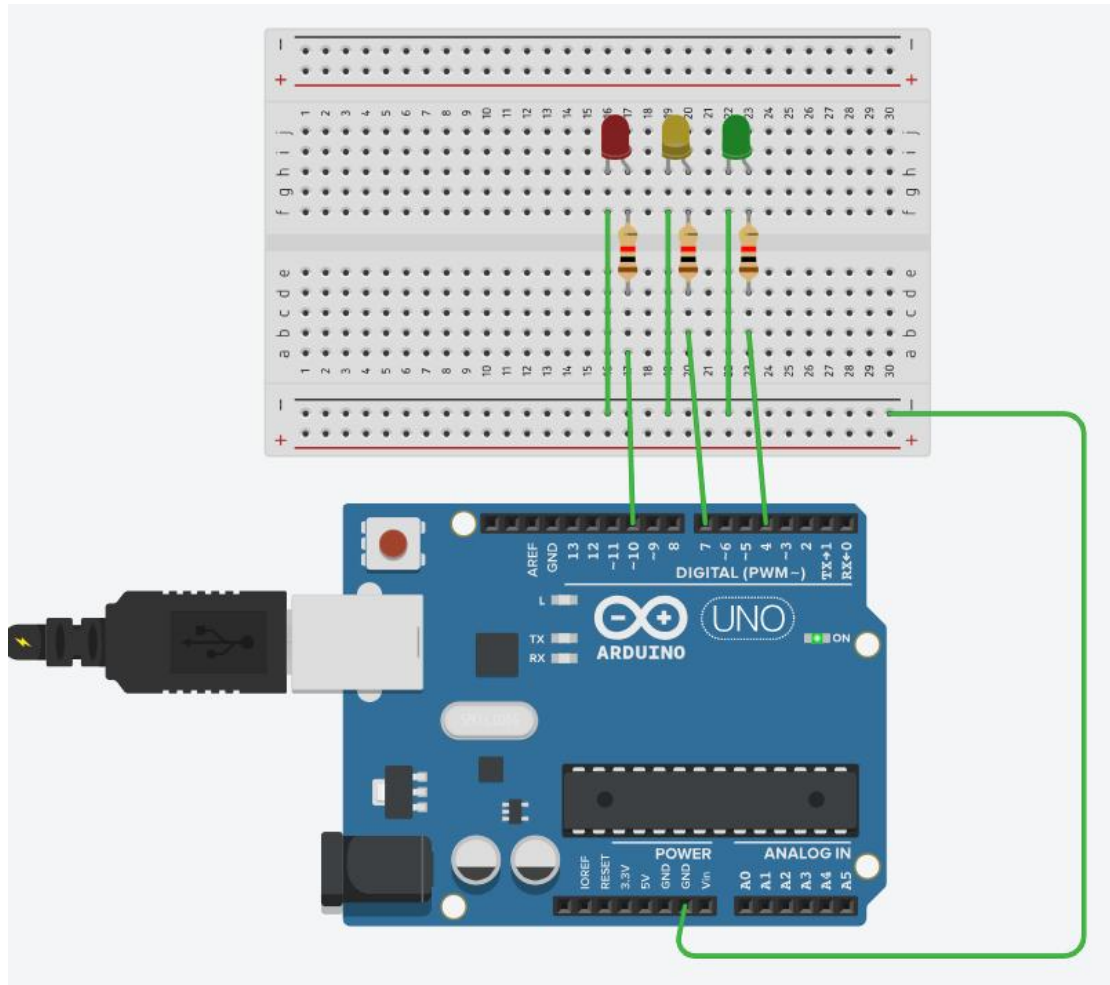
**Circuits:**



**Code:**

```
// C++ code
void setup()
{
  pinMode(LED_BUILTIN, OUTPUT);
}
void loop()
{
  digitalWrite(10, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(10, LOW);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(7, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(7, LOW);
  delay(1000);
  digitalWrite(4, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(4, LOW);
  delay(1000);
}
```

## Running Machine:



## Conclusion :

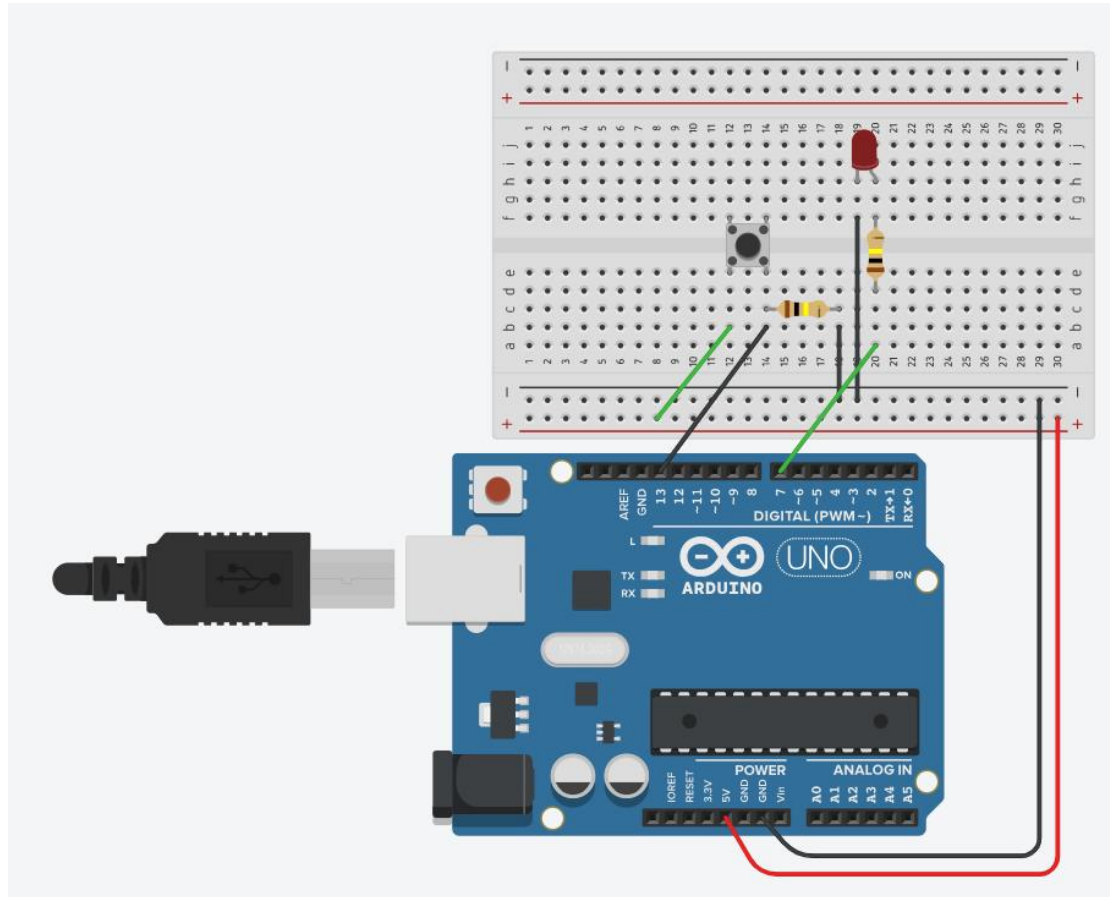
Thus, Learnt How to blink 3 LEDs, one at a time, in a back and forth formation.

## Practical No. 03

**Title :** To interface Push button with Arduino and write a program to turn ON LED when push button is pressed.

**Aim:** To study how push button work and start LED(HIGH).

**Circuits:**

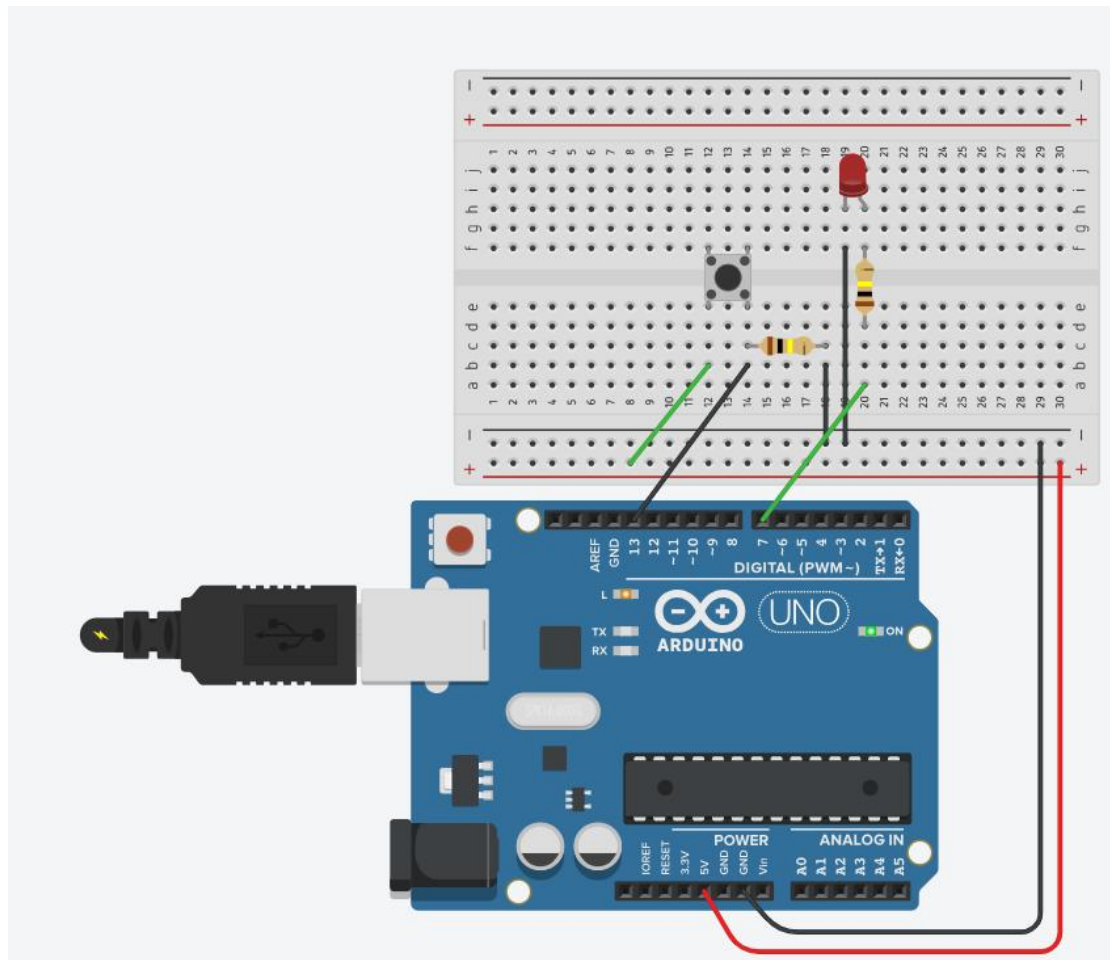


**Code:**

```
int button = 0;
void setup()
{
  pinMode(13, INPUT);
  pinMode(7, OUTPUT);
}

void loop()
{
  button = digitalRead(13);
  if(button == HIGH){
    digitalWrite(7, HIGH);
  }
  else{
    digitalWrite(7, LOW);
  }
  delay(10);
}
```

## Running Machine:



## Conclusion:

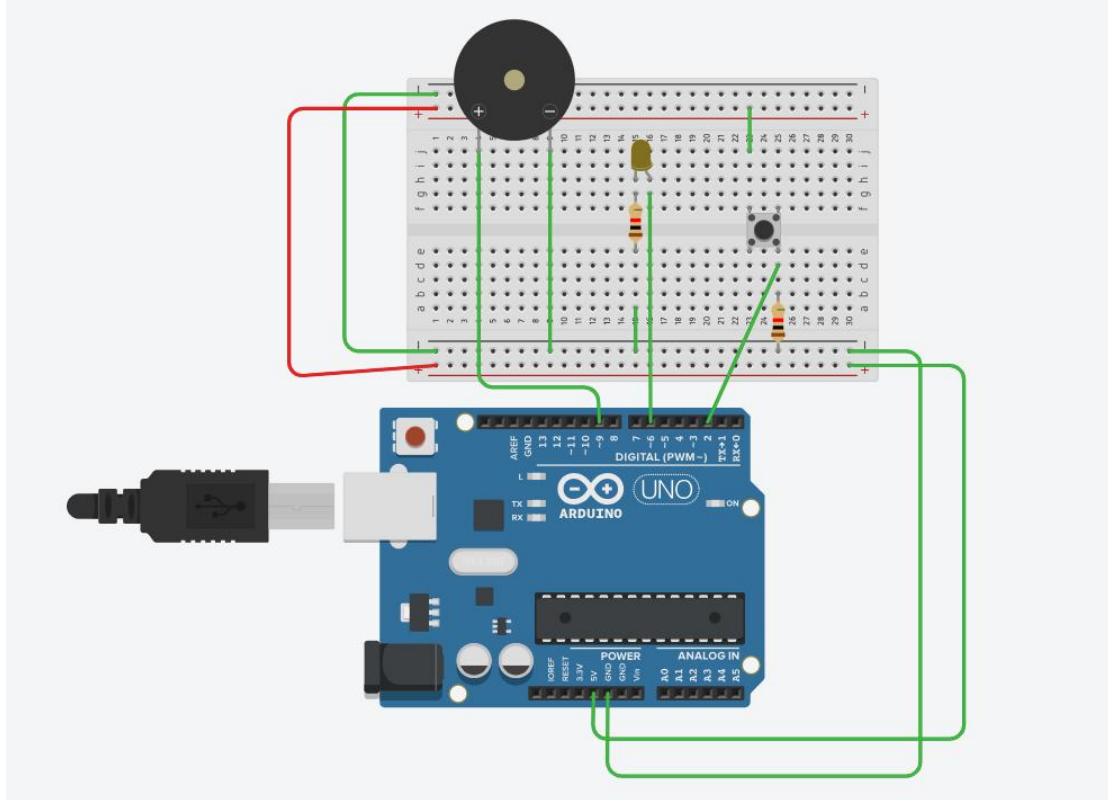
Thus, to Learnt Push button with Arduino and write a program to turn ON LED when push button is pressed.

## Practical No. 04

**Title:** To interface Push button, Speaker/buzzer with Arduino and write a program to turn ON LED and generate a note or tone when push button is pressed.

**Aim:** To study turn ON LED and buzzer generate a note or tone when push button is pressed.

### Circuits:



### Code:

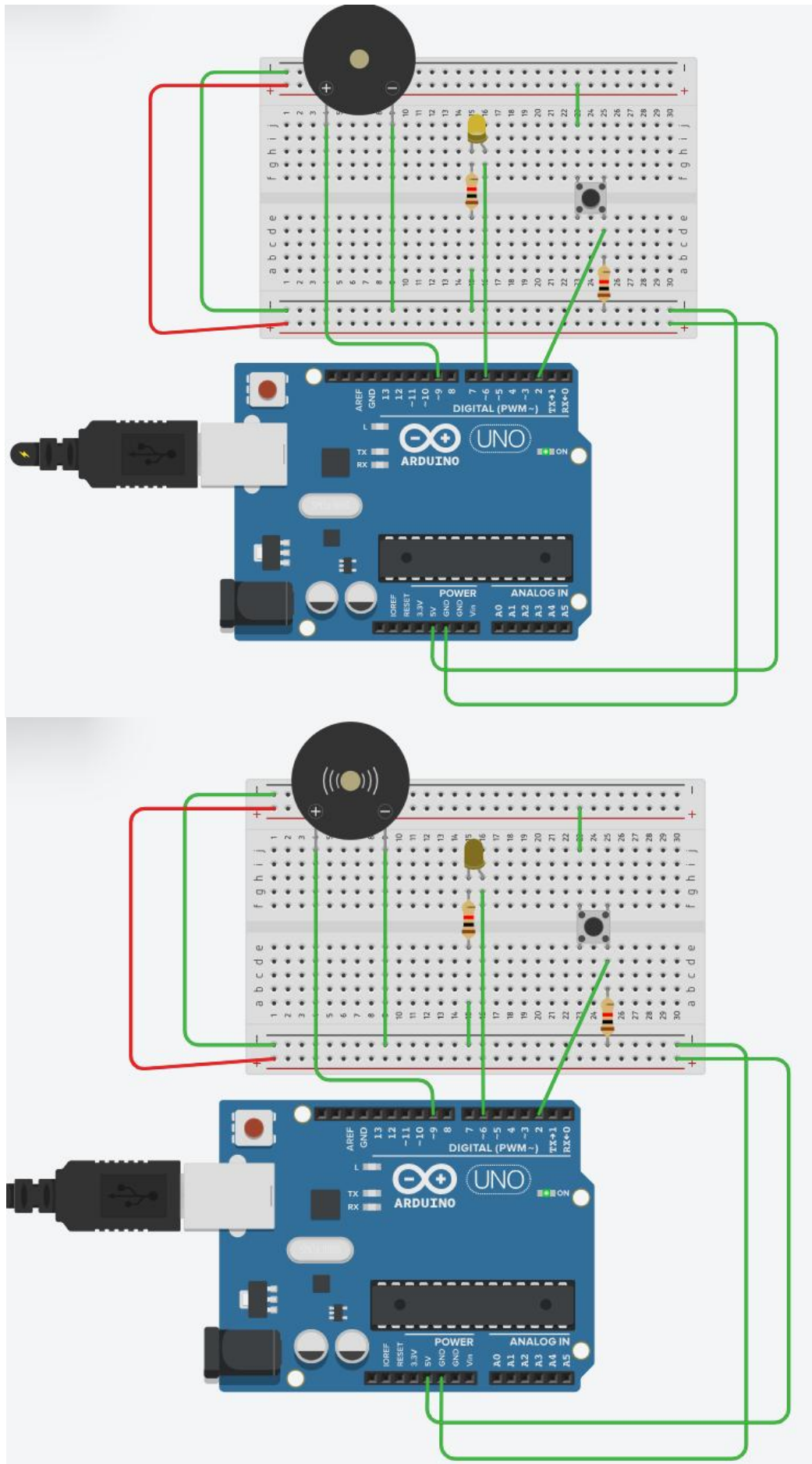
```
void setup()
{
  pinMode(2, INPUT);
  pinMode(6, OUTPUT);
  pinMode(9, OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  delay(1000); // Wait for 1000 millisecond(s)

  if (digitalRead(2) == HIGH) {
    digitalWrite(6, LOW);
    digitalWrite(9, HIGH);
  } else {
    digitalWrite(9, LOW);
    digitalWrite(6, HIGH);
  }
  Serial.println(digitalRead(2));
}
```



## Running Machines:



## Conclusion :

Here we can learn to turn ON LED and generate a note or tone when push button is pressed.

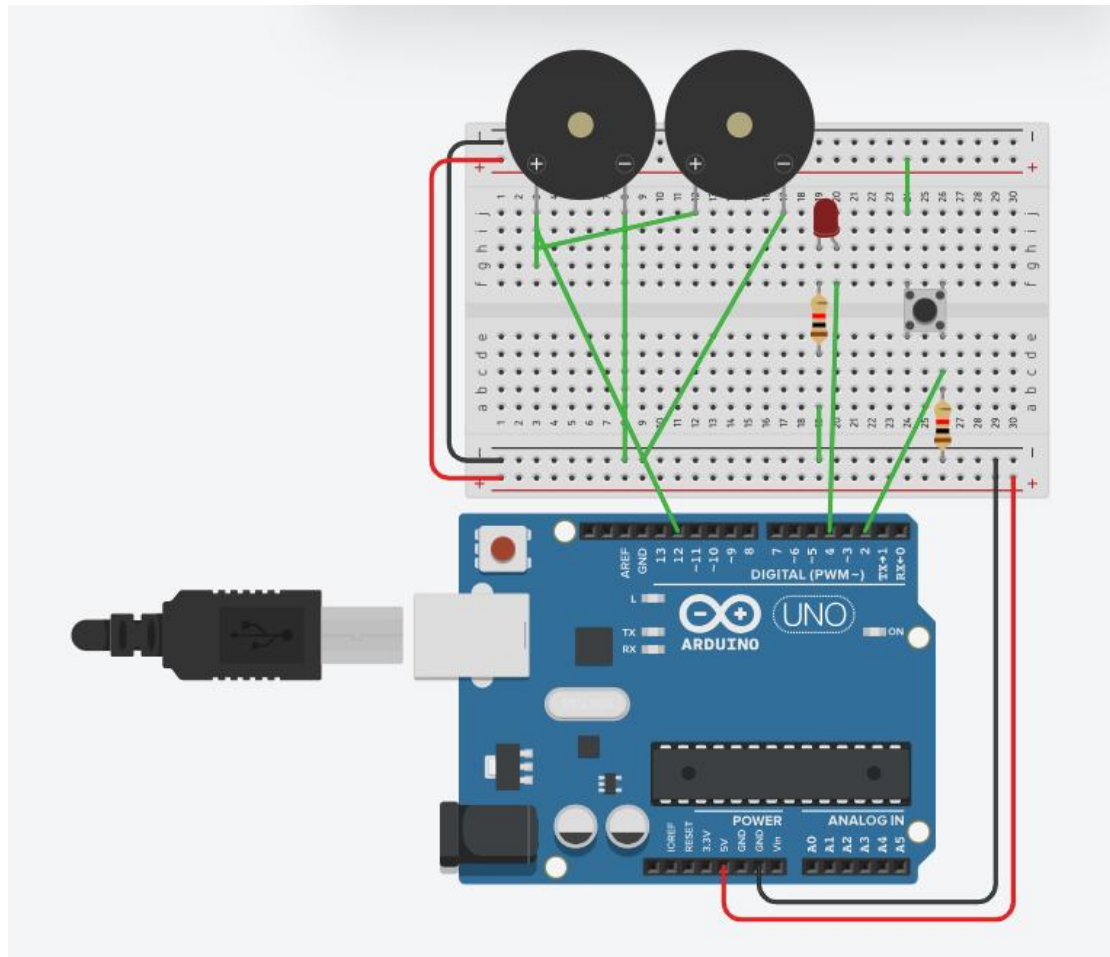


## Practical No. 05

**Title :** To interface 2 Push buttons, a Speaker with Arduino and write a program to turn ON LED and generate a 2 different notes on two button keyboard.

**Aim :** to turn ON LED and generate a 2 different notes on two button keyboard

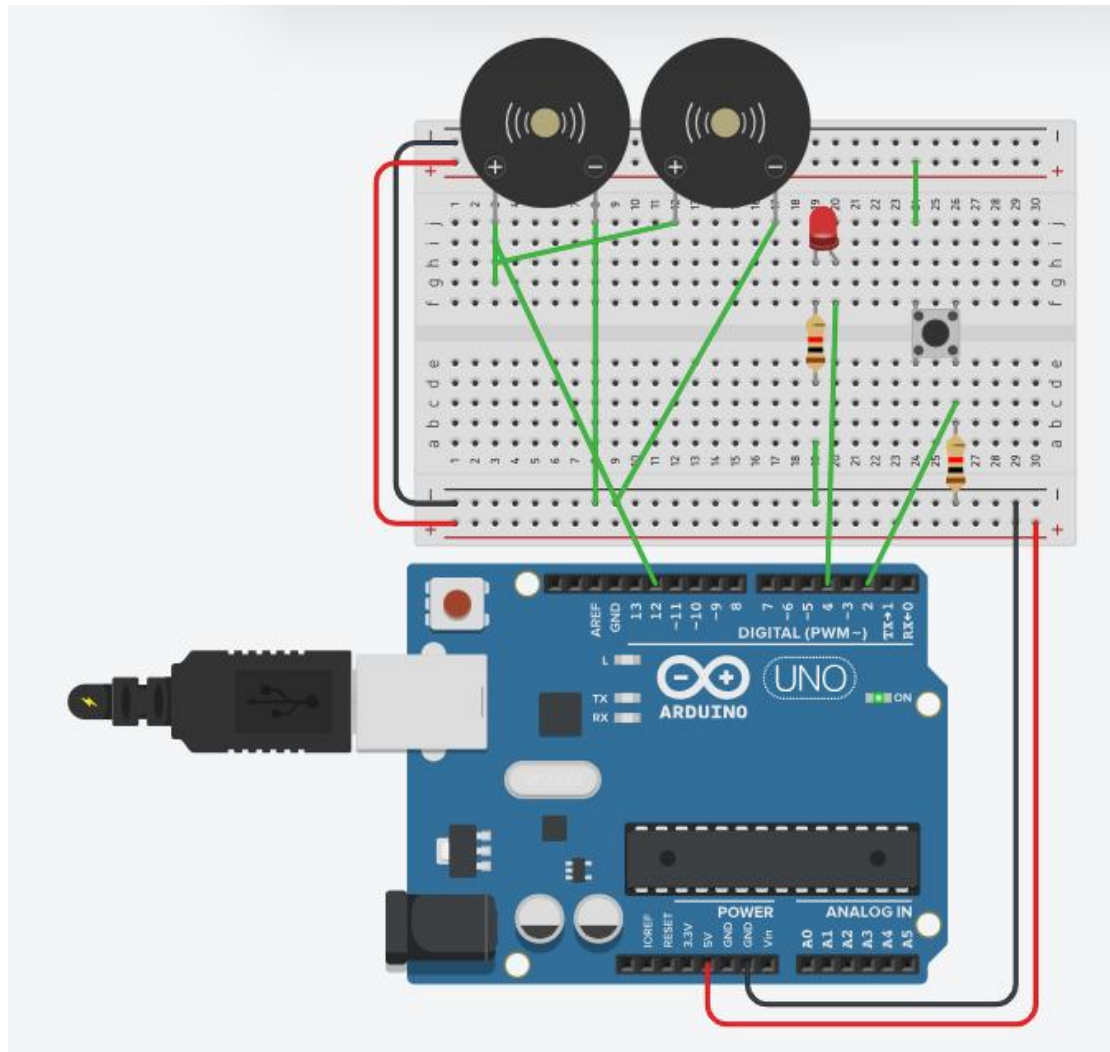
**Circuits:**



**Code:**

```
void setup()
{
  pinMode(2, INPUT);
  pinMode(4, OUTPUT);
  pinMode(12, OUTPUT);
  Serial.begin(9600);
}
void loop()
{
  if (digitalRead(2) == HIGH) {
    digitalWrite(4, HIGH);
    digitalWrite(12, HIGH);
  } else {
    digitalWrite(4, LOW);
    digitalWrite(12, LOW);
  }
  Serial.println(digitalRead(2));
  delay(10); // Delay a little bit to improve simulation performance
}
```

## Running Machines:



## Conclusion:

Here we can learn 2 Push buttons, a Speaker with Arduino and write a program to turn ON LED and generate a 2 different notes on two button keyboard.