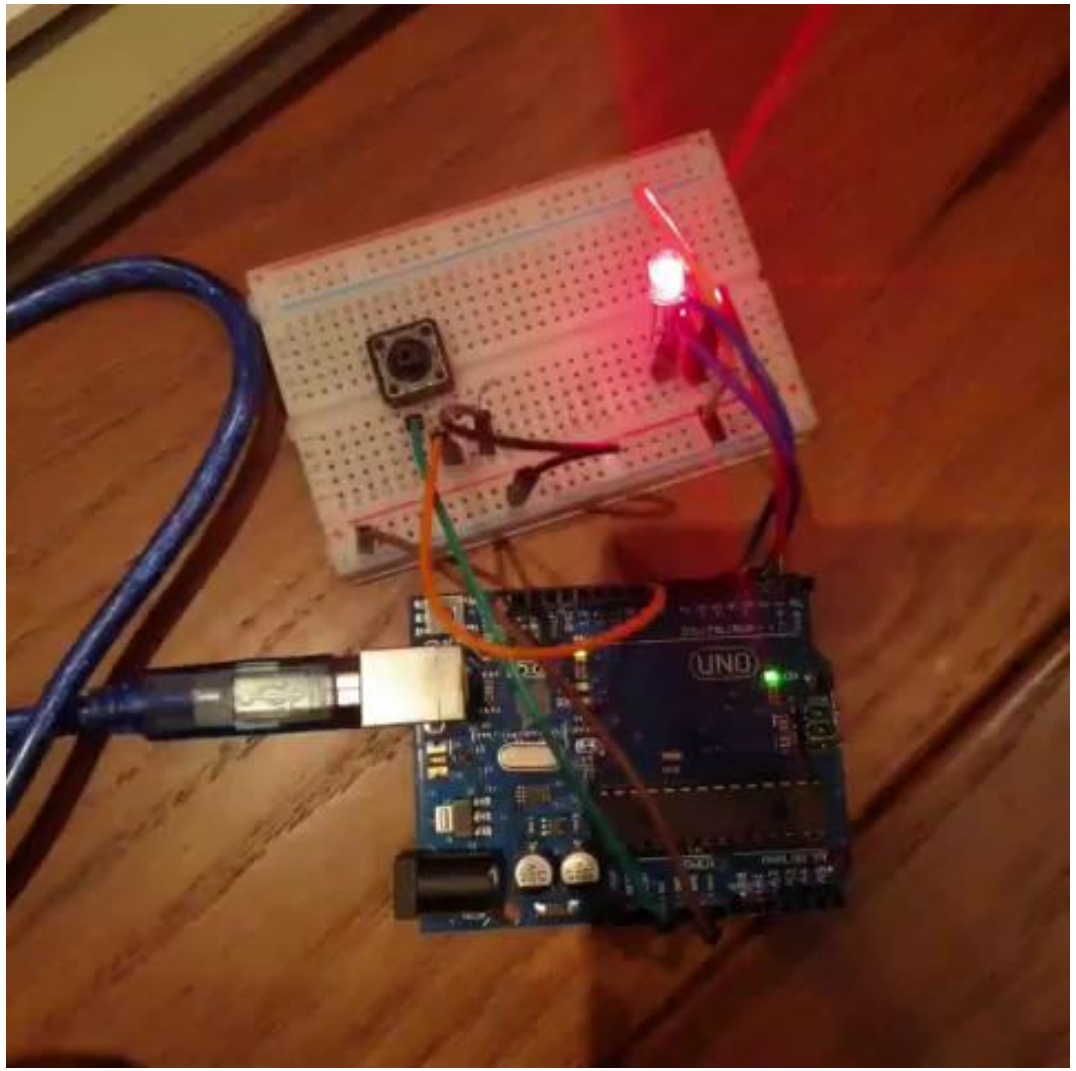
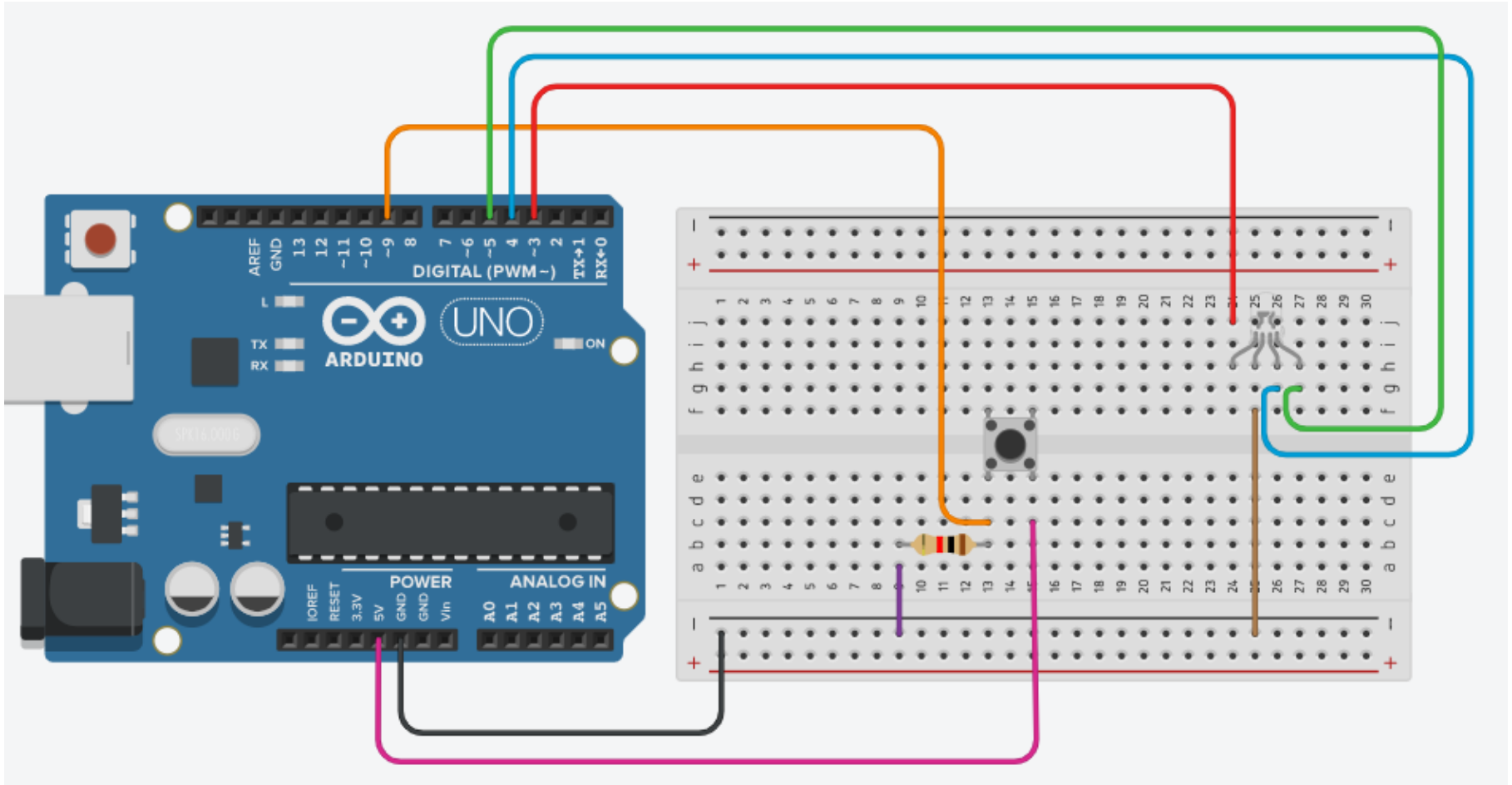
내가 만든 자동차

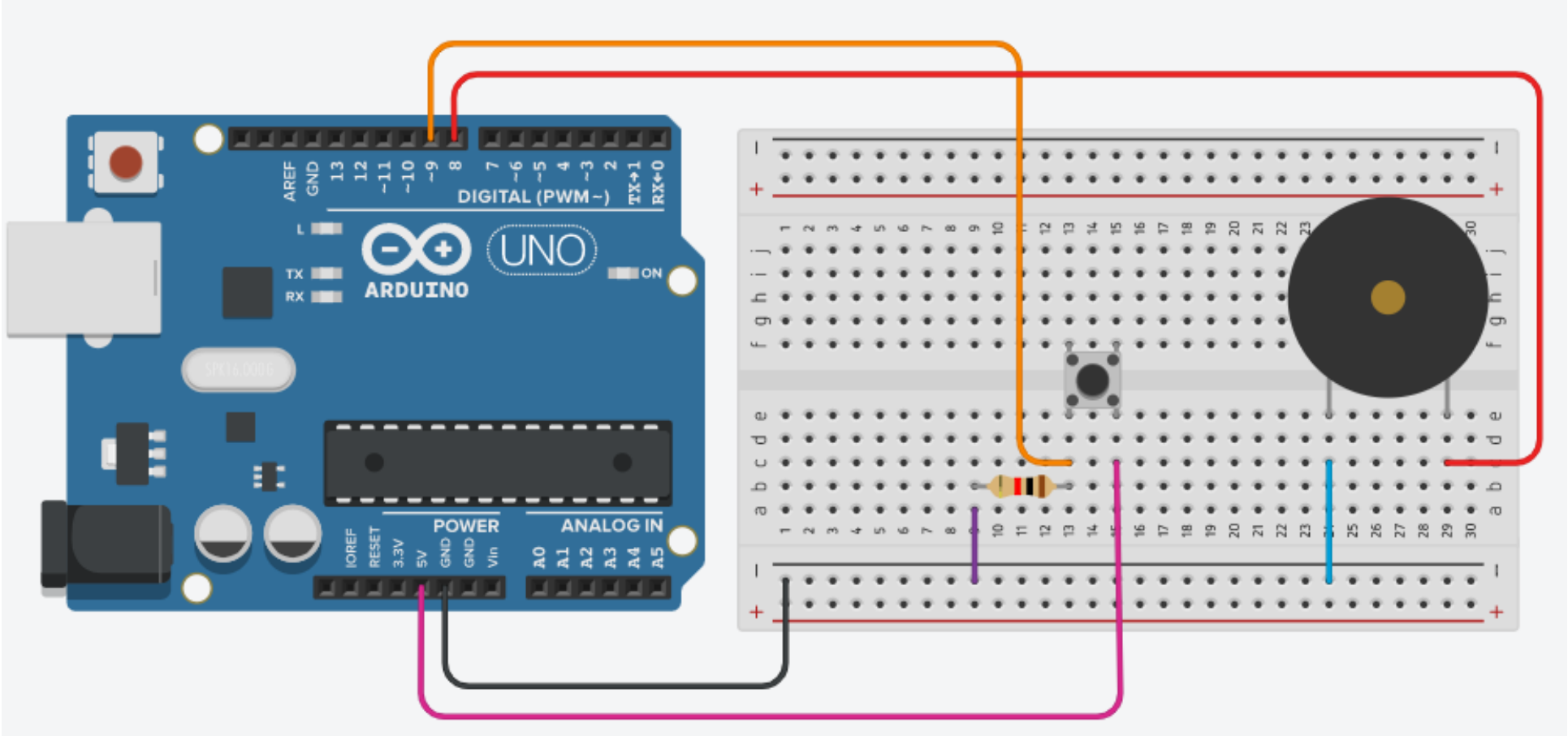
스위치로
불빛 멈추기 게임


UNO


AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
L
TX
RX
ARDUINO
UNO
ON
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

```
void setup() {
pinMode(9, INPUT);  //버튼
pinMode(3, OUTPUT);
pinMode(4, OUTPUT);
pinMode(5, OUTPUT);
}

void loop() {
digitalWrite(3, HIGH);
  if(digitalRead(9) == HIGH){
    delay(5000);
  }
  else {  delay(100);  }
  digitalWrite(3, LOW);
  digitalWrite(4, HIGH);
   if(digitalRead(9) == HIGH){
     delay(5000);
   }
   else {   delay(100);  }
   digitalWrite(4, LOW);

   digitalWrite(5, HIGH);
   if(digitalRead(9) == HIGH){
     delay(5000);
   }
   else {    delay(100);  }
   digitalWrite(5, LOW);
}
```

스위치로
소리내기


AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
L
TX
RX
ARDUINO
UNO
ON
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

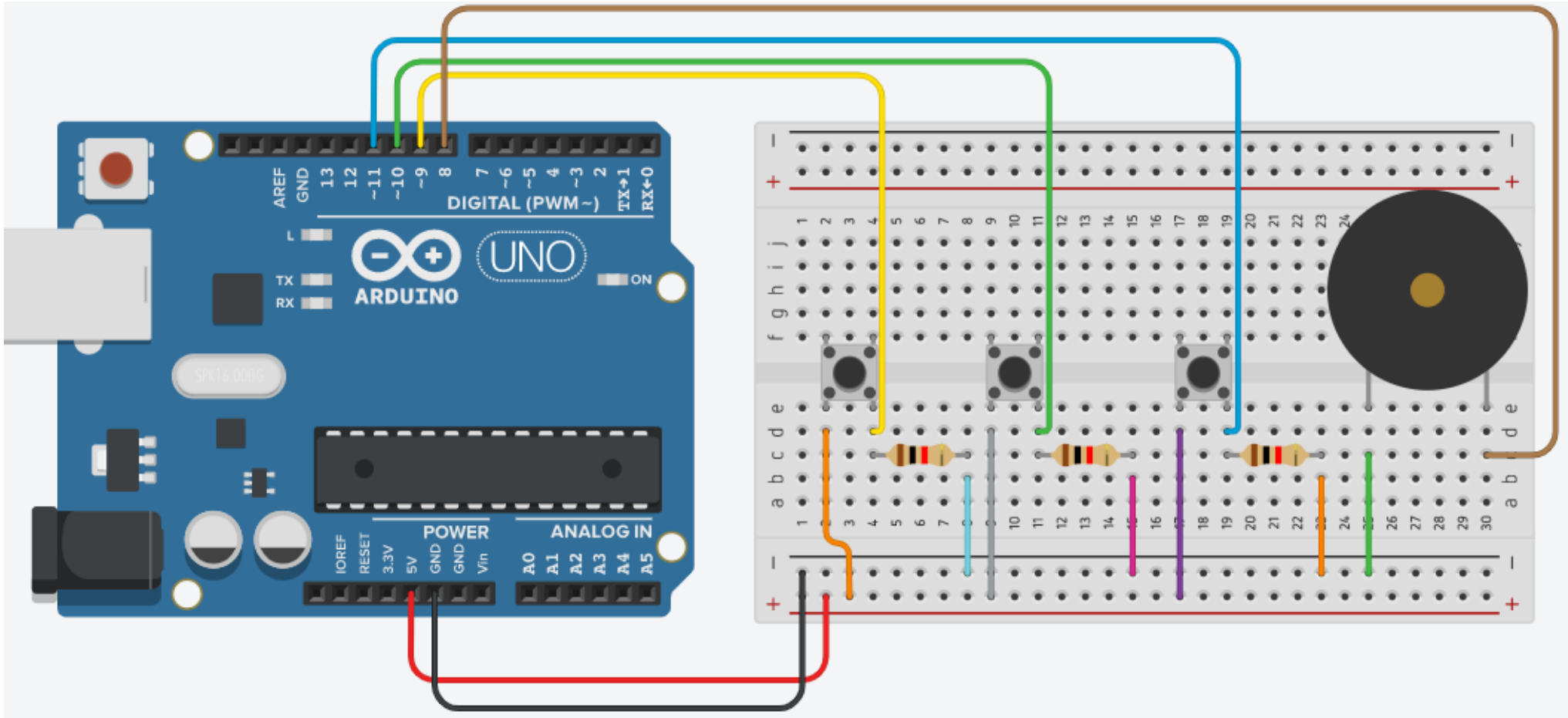
```
void setup() {
pinMode(9, INPUT);
pinMode(8, OUTPUT);
}

void loop() {

  if(digitalRead(9) == HIGH){
    tone(8, 500, 100);
    delay(100);
  }
  else {
    delay(100);
  }
}
```

직접 연주해보자

피아노 만들기

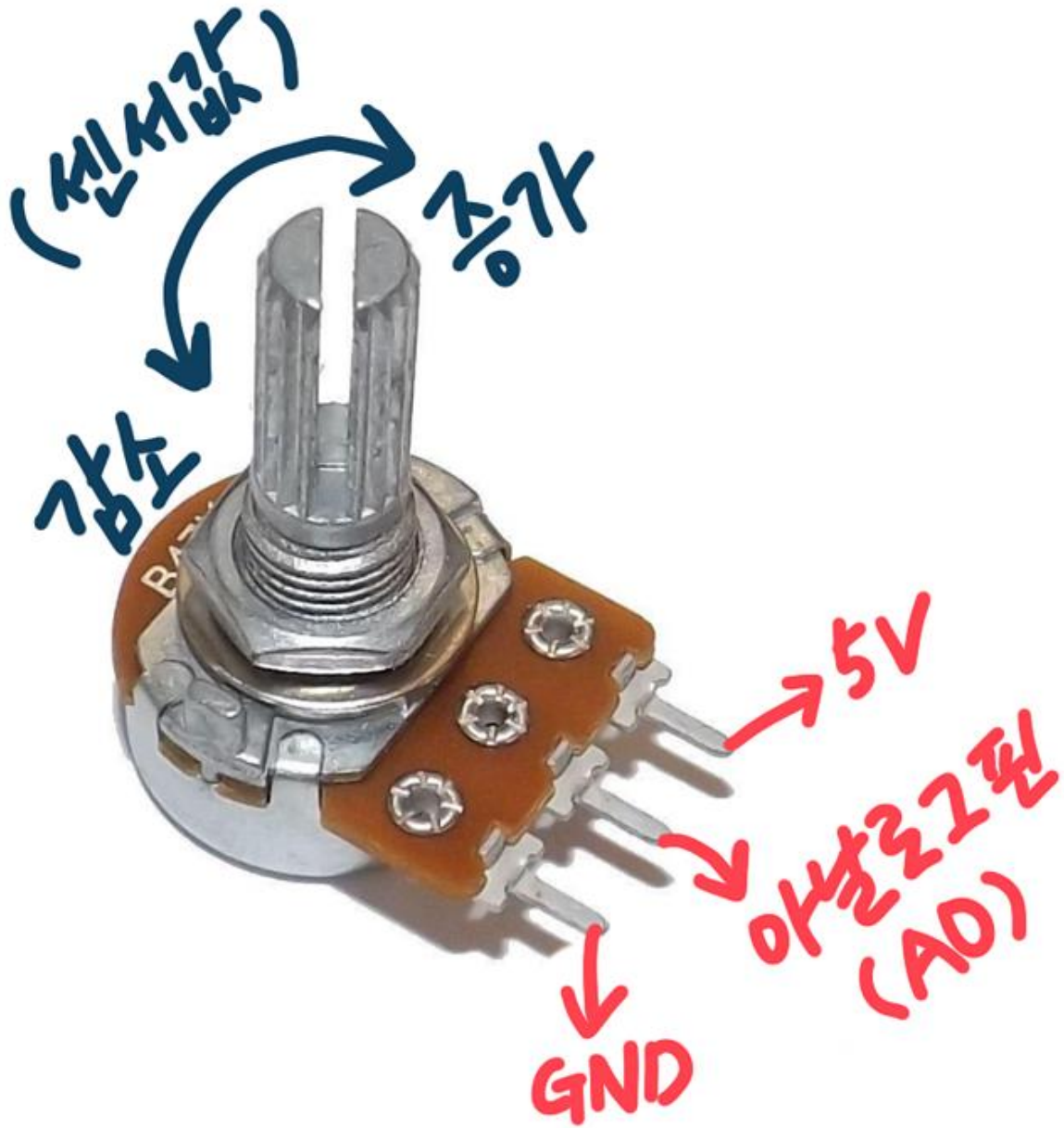
tone(8 , 음의 높낮이 , 1000);

도 : 262
레 : 294
미 : 330
파 : 349
솔 : 392
라 : 440
시 : 494
도 : 523


AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
L
TX
RX
ARDUINO
UNO
ON
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

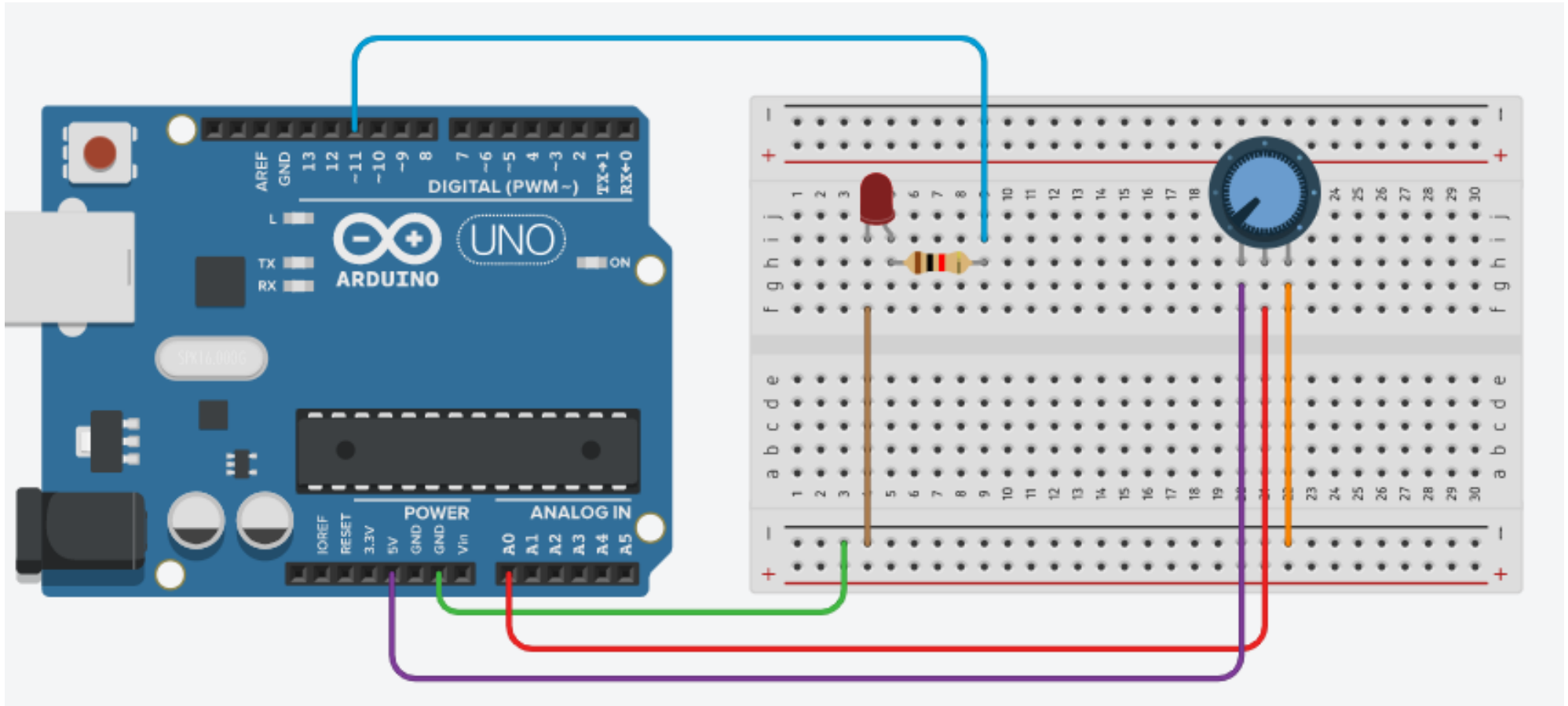
```
void setup() {
pinMode(9, INPUT);  //도
pinMode(10, INPUT);  //레
pinMode(11, INPUT);  //미
pinMode(8, OUTPUT); // 스피커
}

void loop() {
  if(digitalRead(9) == HIGH){
    tone(8, 262, 100);
    delay(100);
  }
  else if(digitalRead(10) == HIGH){
    tone(8, 294, 100);
    delay(100);
  }
   else if(digitalRead(11) == HIGH){
    tone(8, 330, 100);
    delay(100);
  }
  else {
    delay(100);
  }
}
```

가변저항으로
밝기 조절해보기

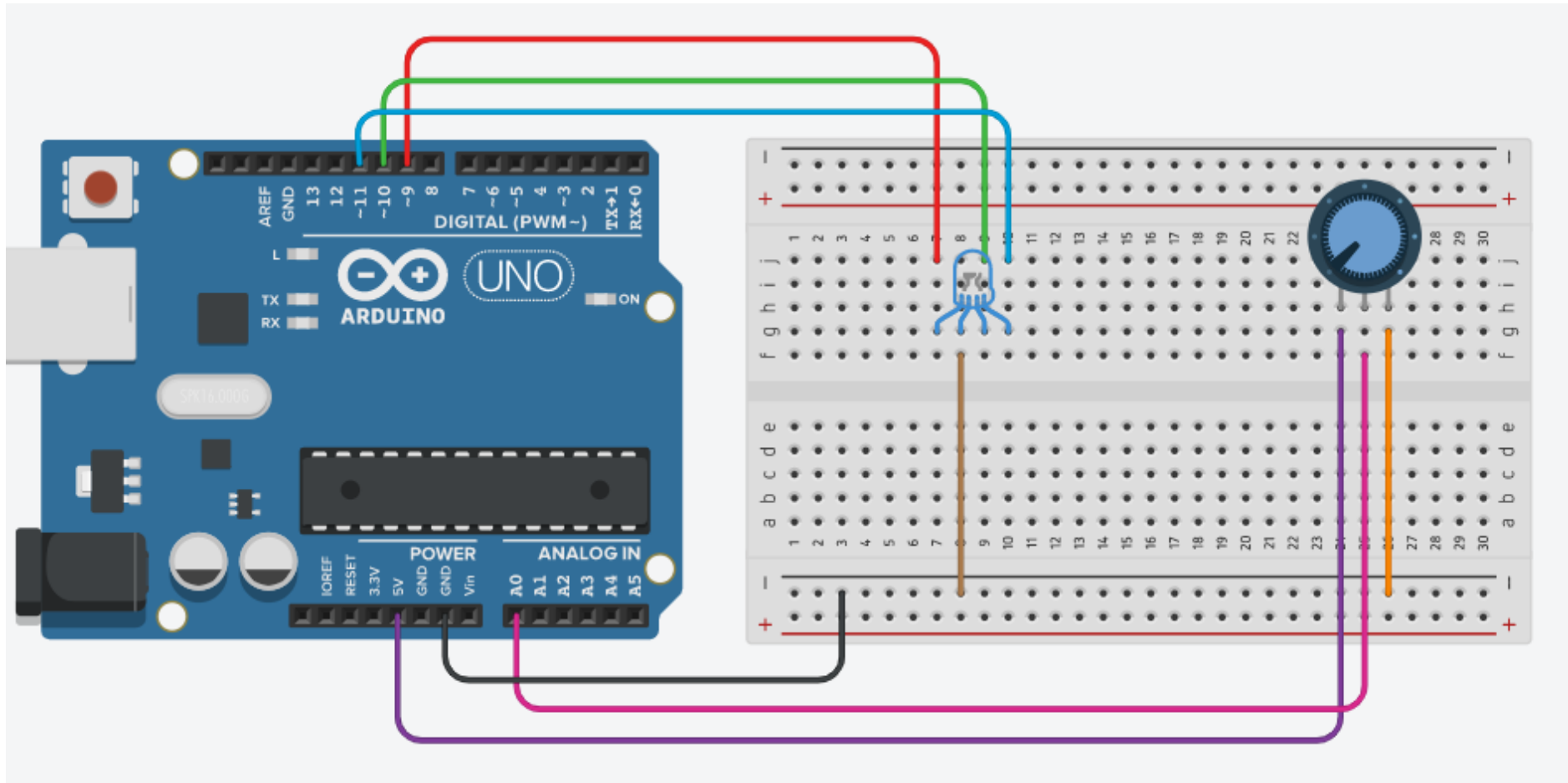

(센서값)
증가
감소
5V
아날로그핀
(A0)
GND

3, 5, 6, 9, 10, 11만 사용

```
void setup()
{
  pinMode(11, OUTPUT); //LED
  Serial.begin(9600);
}

void loop()
{
  Serial.println(analogRead(A0));
  analogWrite(11, analogRead(A0)/4);
}
```


AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
L
TX
RX
ARDUINO
UNO
ON
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

가변저항으로
RGB 조절해보기


AREF
GND
13
12
~11
~10
~9
8
7
~6
~5
4
~3
2
TX→1
RX←0
DIGITAL (PWM~)
L
TX
RX
ARDUINO
UNO
ON
POWER
ANALOG IN
IOREF
RESET
3.3V
5V
GND
GND
Vin
A0
A1
A2
A3
A4
A5

```
void setup()
{  pinMode(9, OUTPUT); //R
   pinMode(10,OUTPUT); //G
   pinMode(11,OUTPUT); //B
     Serial.begin(9600);  }

void loop()
{  Serial.println(analogRead(A0));
   int value = analogRead(A0)/4;
     if(0<=value and value< 3){
        digitalWrite(9, LOW);
       digitalWrite(10, LOW);
      digitalWrite(11, LOW);   }

else if(3<value and value<=39){
       digitalWrite(9, HIGH);
       digitalWrite(10, LOW);
      digitalWrite(11, LOW); }

      else if(39<=value and
          value<=75){
       digitalWrite(9, LOW);
      digitalWrite(10, HIGH);
       digitalWrite(11, LOW);
                }
```

```
else if(75<value and value<=111){
        digitalWrite(9, LOW);
        digitalWrite(10, LOW);
        digitalWrite(11, HIGH);
                }
        else if(111<value and
            value<=147){
        digitalWrite(9, HIGH);
        digitalWrite(10, HIGH);
        digitalWrite(11, LOW);
                }
```

```
else if(147<value and value<=183){
        digitalWrite(9, HIGH);
        digitalWrite(10, LOW);
        digitalWrite(11, HIGH);
                }
 else if(183<value and value<=219){
        digitalWrite(9, LOW);
        digitalWrite(10, HIGH);
        digitalWrite(11, HIGH);
                }
                else {
        digitalWrite(9, HIGH);
        digitalWrite(10, HIGH);
        digitalWrite(11, HIGH);
                }

                }
```

직접 만들어보자!!

아이디어

생각해보자!