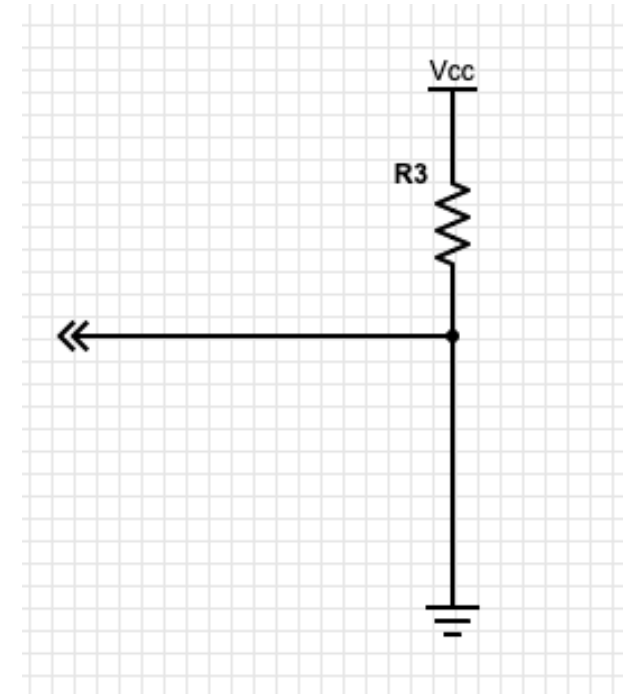# 키입력 실험
(Digital Input)

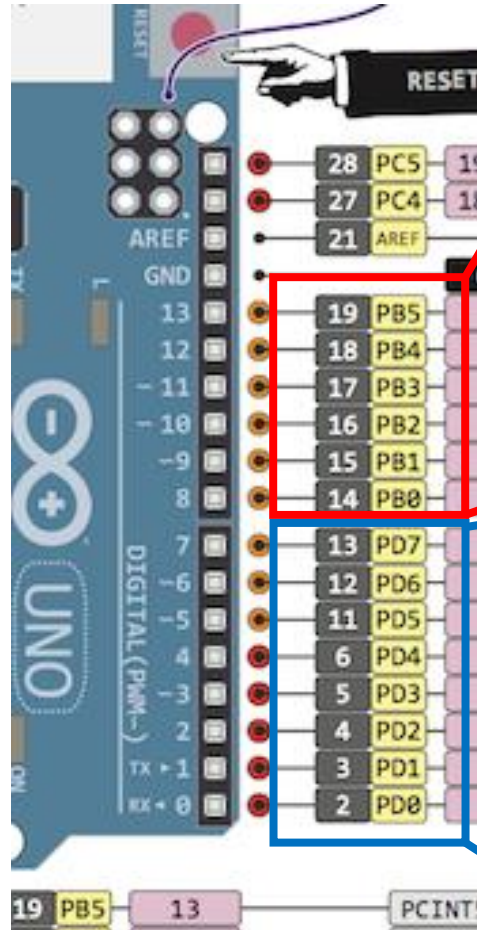"수업자료는 여기"

부저+버튼 테스트
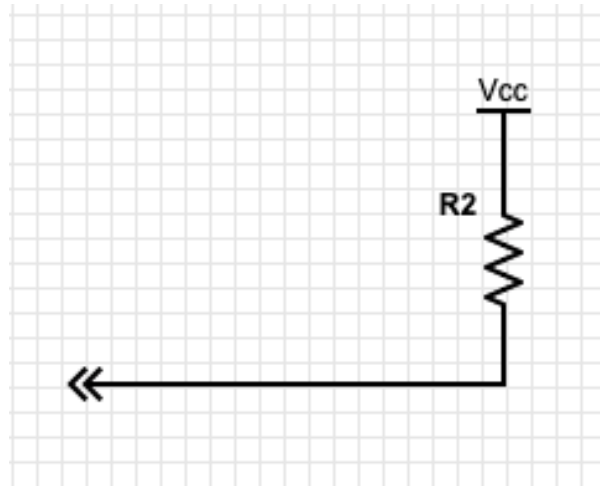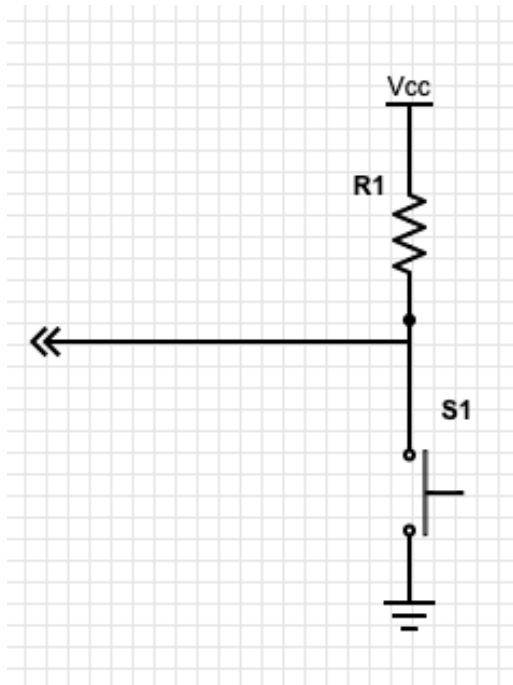
IO 포트 관련 레지스터를 다시 확인

- Port

13.4.2 PORTB – The Port B Data Register

Bit	7	6	5	4	3	2	1	0	
0x05 (0x25)	PORTB7	PORTB6	PORTB5	PORTB4	PORTB3	PORTB2	PORTB1	PORTB0	PORTB
Read/Write	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W	
Initial Value	0	0	0	0	0	0	0	0	

13.4.3 DDRB – The Port B Data Direction Register

Bit	7	6	5	4	3	2	1	0	
0x04 (0x24)	DDB7	DDB6	DDB5	DDB4	DDB3	DDB2	DDB1	DDB0	DDRB
Read/Write	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W	
Initial Value	0	0	0	0	0	0	0	0	

13.4.4 PINB – The Port B Input Pins Address

Bit	7	6	5	4	3	2	1	0	
0x03 (0x23)	PINB7	PINB6	PINB5	PINB4	PINB3	PINB2	PINB1	PINB0	PINB
Read/Write	R	R	R	R	R	R	R	R	
Initial Value	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

13.4.8 PORTD – The Port D Data Register

Bit	7	6	5	4	3	2	1	0	
0x0B (0x2B)	PORTD7	PORTD6	PORTD5	PORTD4	PORTD3	PORTD2	PORTD1	PORTD0	PORTD
Read/Write	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W	
Initial Value	0	0	0	0	0	0	0	0	

13.4.9 DDRD – The Port D Data Direction Register

Bit	7	6	5	4	3	2	1	0	
0x0A (0x2A)	DDD7	DDD6	DDD5	DDD4	DDD3	DDD2	DDD1	DDD0	DDRD
Read/Write	R/W	R/W	R/W	R/W	R/W	R/W	R/W	R/W	
Initial Value	0	0	0	0	0	0	0	0	

13.4.10 PIND – The Port D Input Pins Address

Bit	7	6	5	4	3	2	1	0	
0x09 (0x29)	PIND7	PIND6	PIND5	PIND4	PIND3	PIND2	PIND1	PIND0	PIND
Read/Write	R	R	R	R	R	R	R	R	
Initial Value	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

버튼을 이용한 Digital Input 실험

풀업(Full-up)

Vcc

R1

PIN(8) : PB0

S1
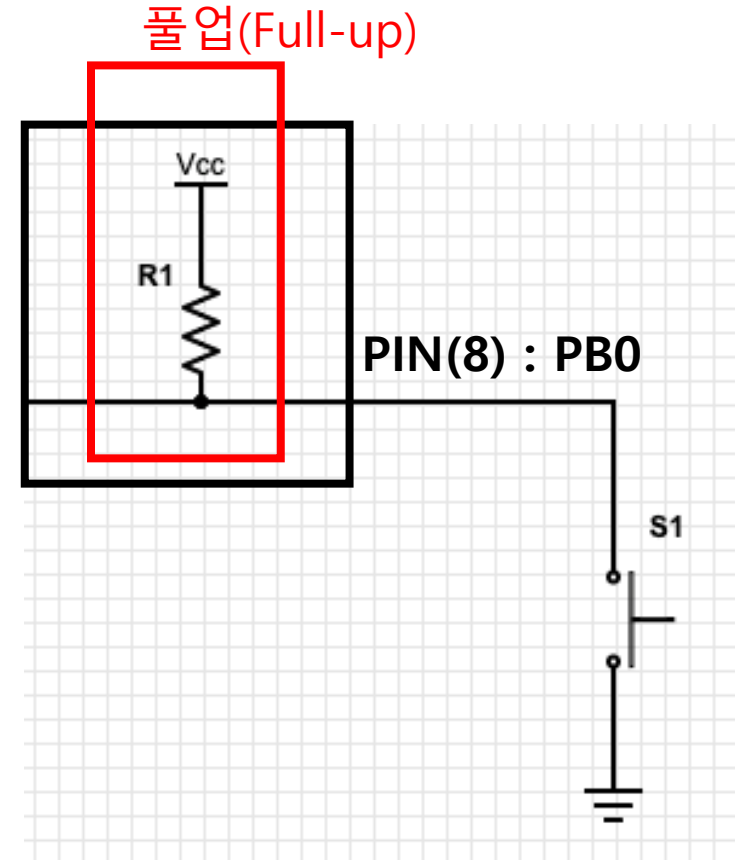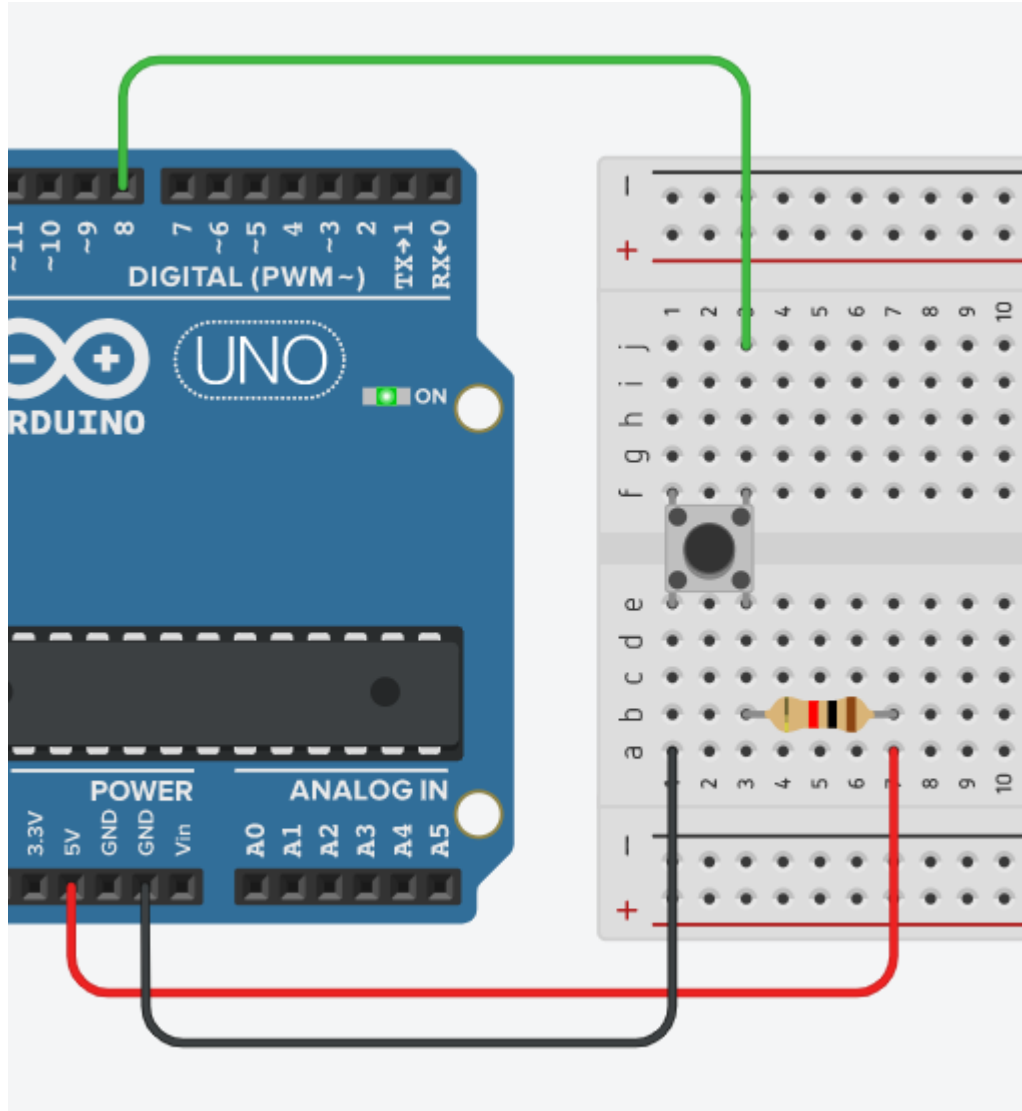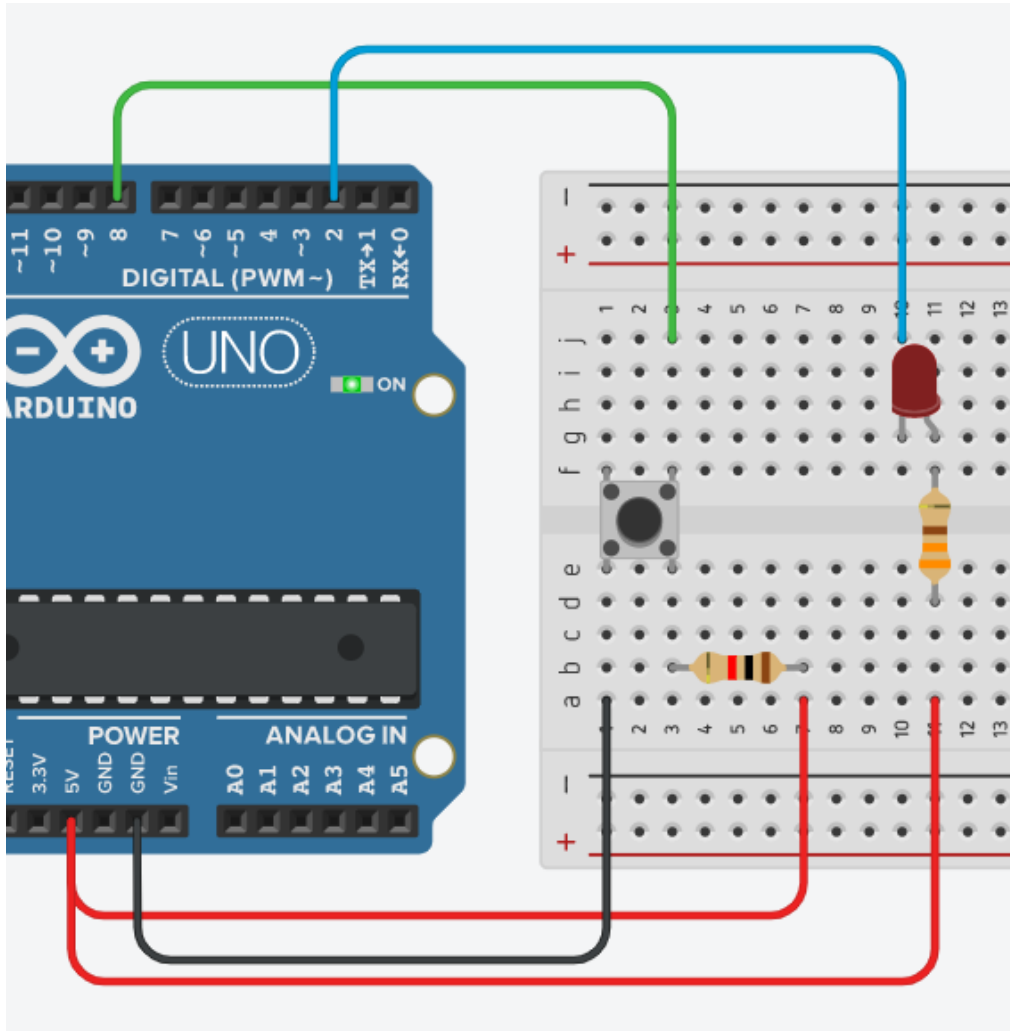
버튼을 이용한 Digital Input 실험
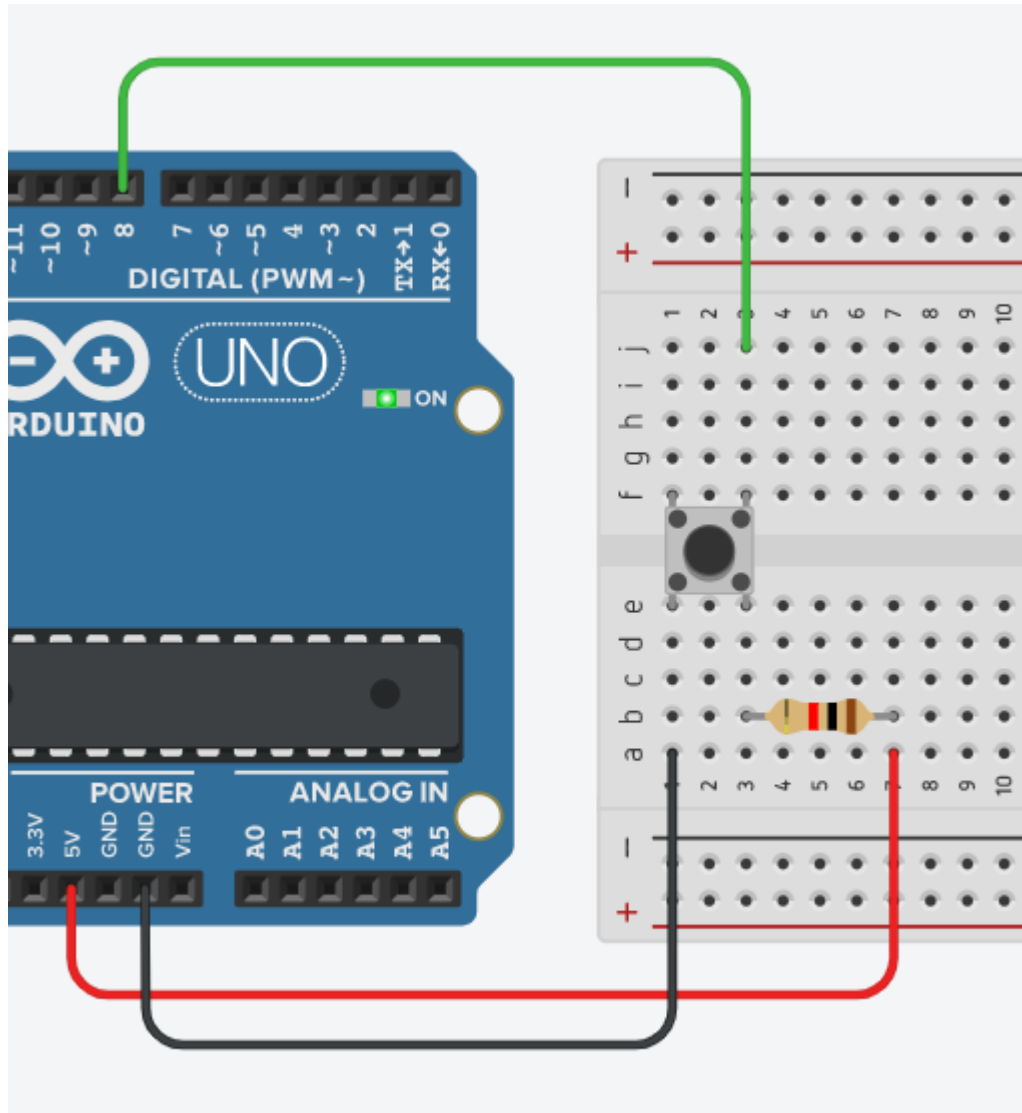

```
void setup()
{
    DDRB = B00000000 ;

    Serial.begin(9600) ;
}

void loop()
{
    Serial.println(PINB) ;
}
```

버튼을 이용한 Digital Input 실험

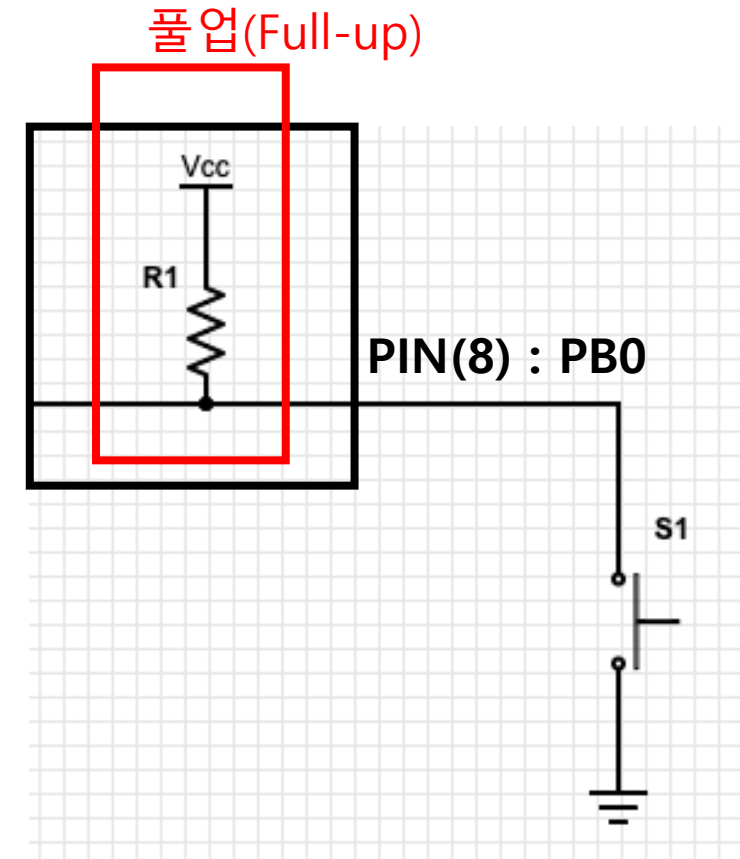```
void setup()
{
  DDRB = B00000000 ;
  DDRD = B00000100 ;

  PORTD = B00000100 ;

  Serial.begin(9600) ;
}

void loop()
{
  Serial.println(PINB) ;

  if(PINB == B00000001)
  {
    PORTD = B00000100 ;   //LED OFF
  }
  else
  {
    PORTD = B00000000 ;   //LED ON
  }
}
```
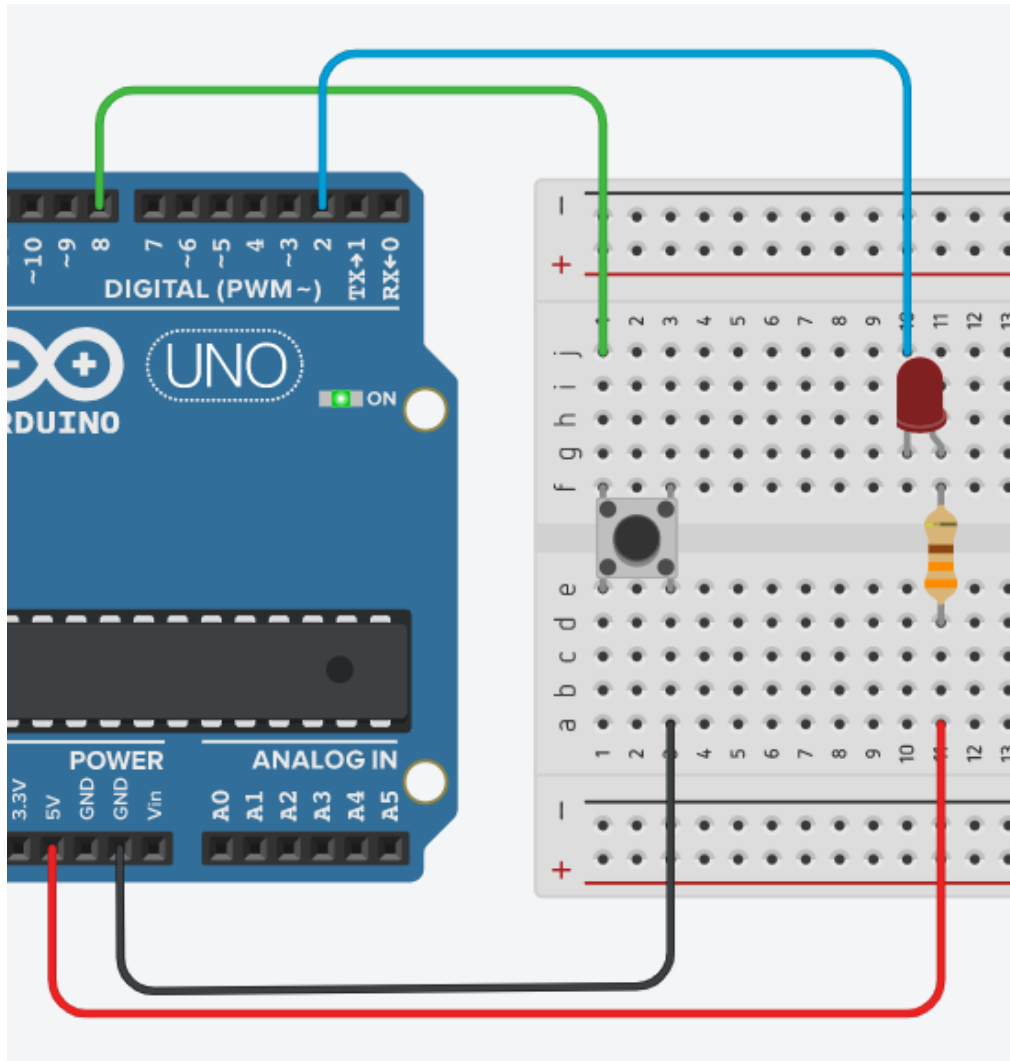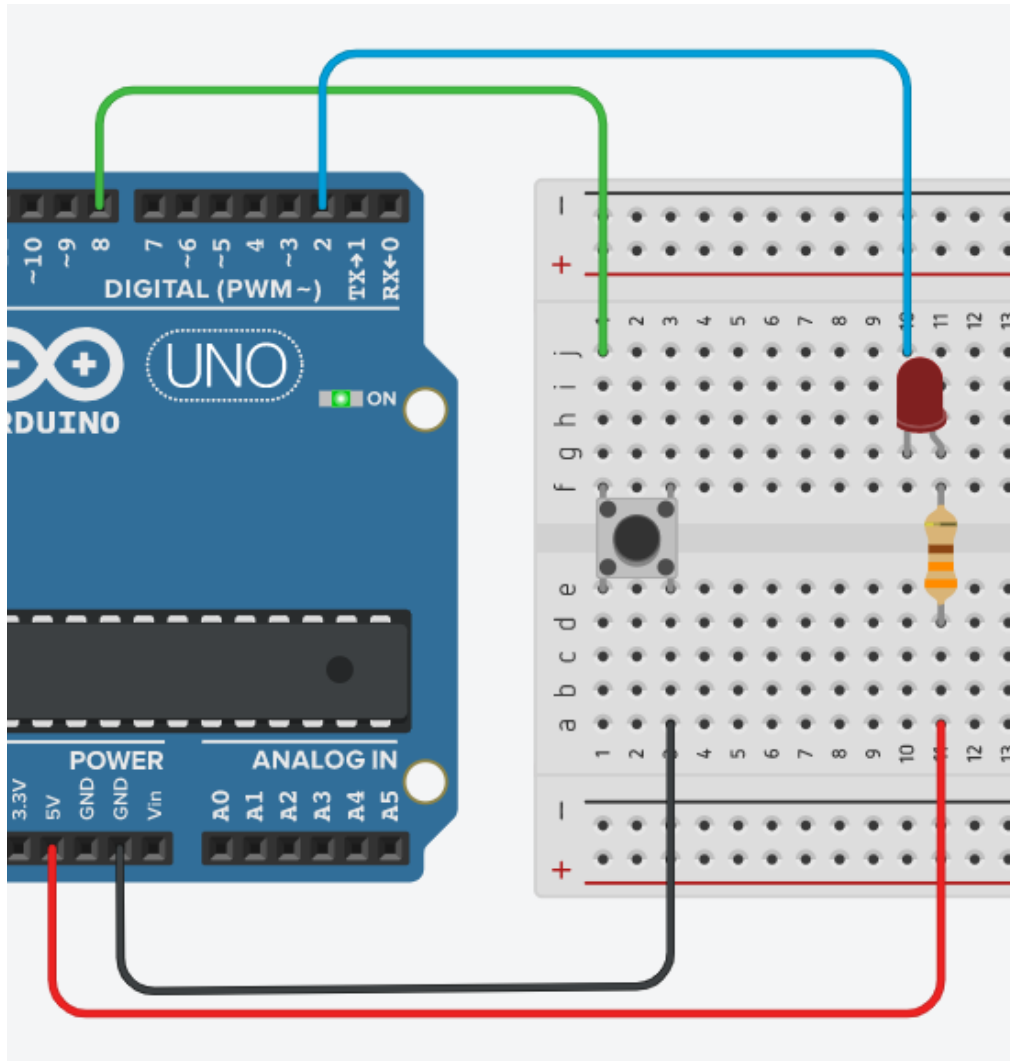
# 버튼을 이용한 Digital Input 실험2



풀업(Full-up)

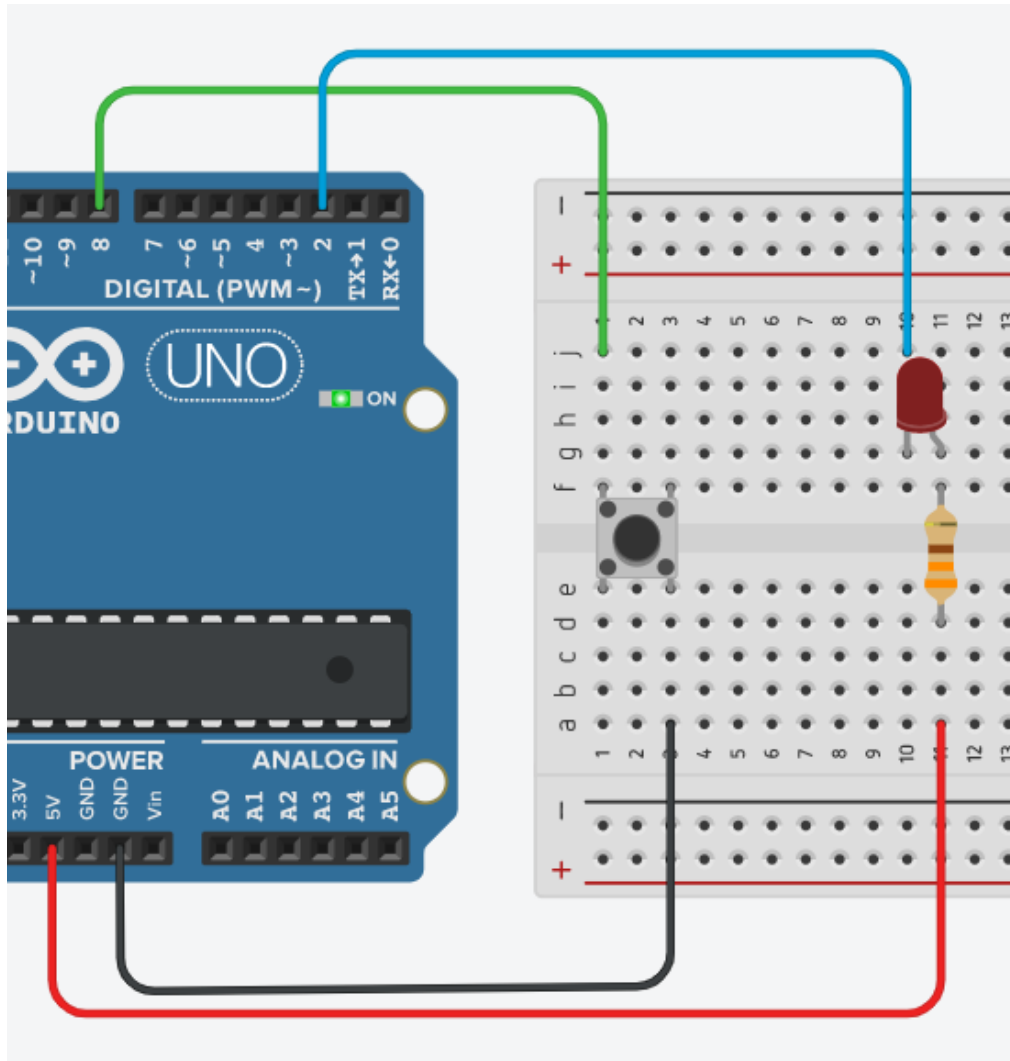PIN(8) : PB0

# 버튼을 이용한 Digital Input 실험2



```cpp
// C++ code
//
void setup()
{
  pinMode(8, INPUT_PULLUP);

  DDRD = B00000100 ;
  PORTD = B00000100 ;
}

void loop()
{
  if( digitalRead (8) == LOW )
  {
    PORTD = B00000000 ;        //LED ON
  }
  else
  {
    PORTD = B00000100 ;        //LED OFF
  }
}
```

버튼을 이용한 Digital Input 실험2


```cpp
// C++ code
//
void setup()
{
  pinMode(8, INPUT_PULLUP);
  pinMode(2, OUTPUT) ;
}

void loop()
{
  if( digitalRead (8) == LOW )
  {
    digitalWrite(2, LOW) ;
  }
  else
  {
    digitalWrite(2, HIGH) ;
  }
}
```