Responder Experiment

★ Overview

This is a three responder experiment.
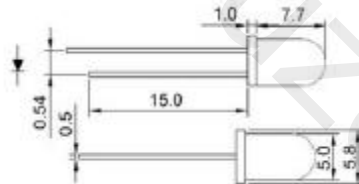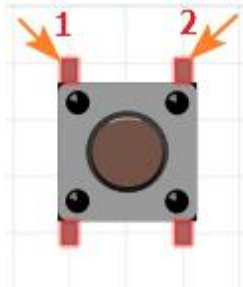
★ Specification

Button : Size: 6 x 6 x 5mm
Temperature: -30 ~ +70 Centigrade

★ Pin definition

Is the definition of Button pin :

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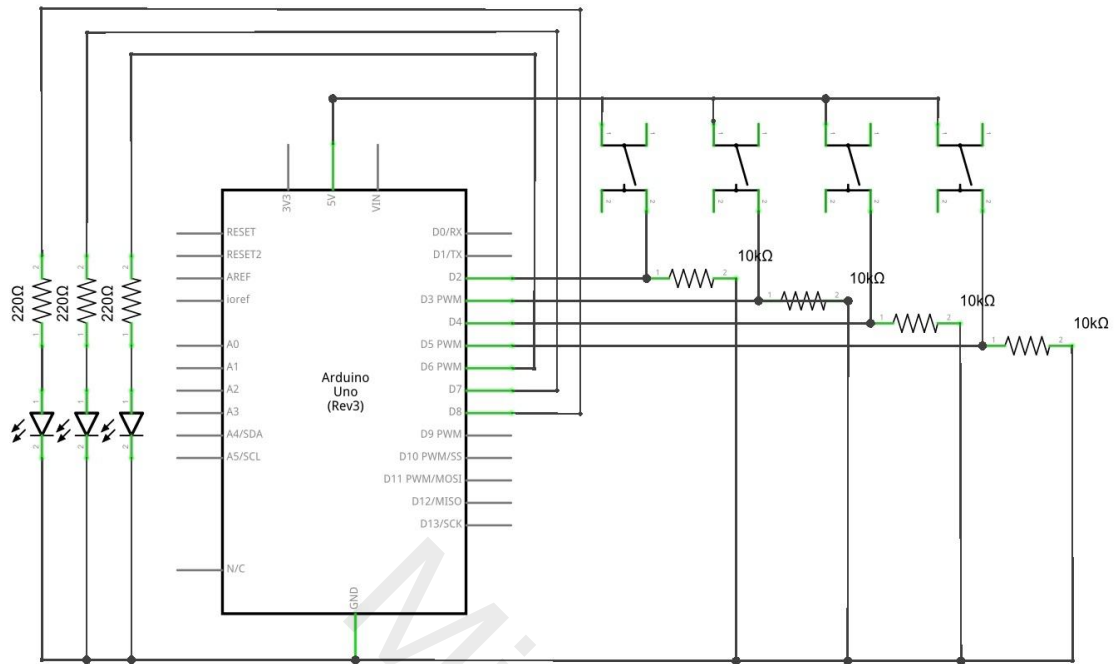
Material diagram	Material name	Number
	Button	4
	LED	3
	220/330Ω resistor	3
	10KΩ resistor	4
	USB Cable	1
	UNO R3	1
	Breadboard	1
	Jumper wires	Several

Connection

★ Schematic

★ **Connection diagram**

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Connection
LED1 -> D8
LED2 -> D7
LED3 -> D6
Key1 -> D5
Key2 -> D4
Key3 -> D3
KeyRest -> D2
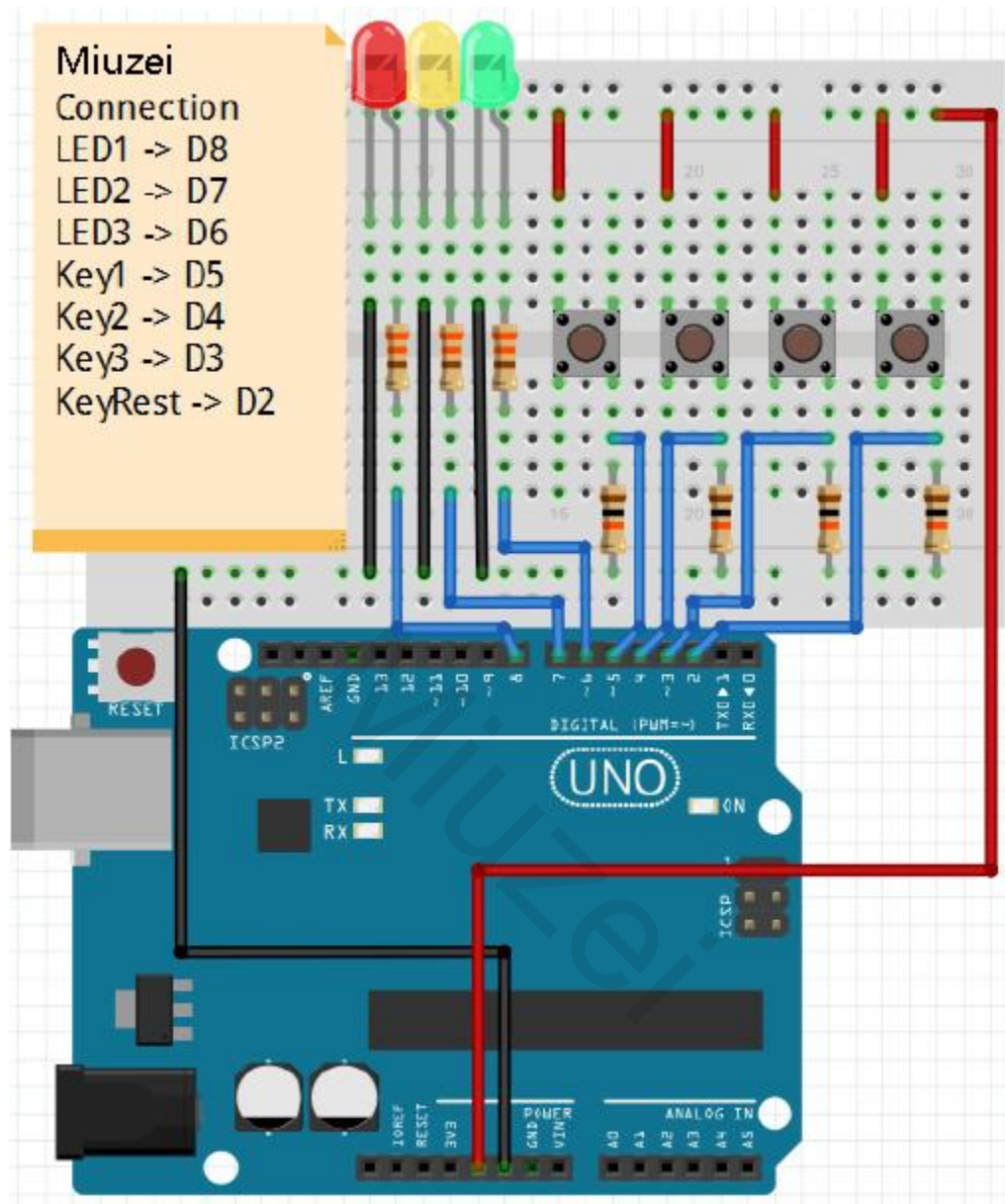
Note: Button using 10KΩ resistor, LED use 220/330Ω resistor.

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★ **Sample code**

Note: sample code under the **Sample code** folder

```
int Redled=8;      // set Red LED as "output"
int Yellowled=7;   // set Yellow LED as "output"
int Greenled=6;    // set Green LED as "output"
int Key1=5;        // initialize pin for Red button
int Key2=4;        // initialize pin for Yellow button
int Key3=3;        // initialize pin for Green button
int KeyRest=2;     // initialize pin for reset button
int Red;
int Yellow;
int Green;
void setup()
{
    pinMode(Redled,OUTPUT);
    pinMode(Yellowled,OUTPUT);
    pinMode(Greenled,OUTPUT);
    pinMode(Key1,INPUT);
    pinMode(Key2,INPUT);
    pinMode(Key3,INPUT);
    pinMode(KeyRest,INPUT);
}
void loop()        // repeatedly read pins for buttons
{
    Red=digitalRead(Key1);
    Yellow=digitalRead(Key2);
    Green=digitalRead(Key3);
    if(Red==HIGH)Red_YES();
    if(Yellow==HIGH)Yellow_YES();
    if(Green==HIGH)Green_YES();
}

void Red_YES() // execute the code until Red light is on; end cycle when reset button is
pressed
{
    while(digitalRead(KeyRest)==0)
{
    digitalWrite(Redled,HIGH);
    digitalWrite(Greenled,LOW);
    digitalWrite(Yellowled,LOW);
}
clear_led();
}
void Yellow_YES() // execute the code until Yellow light is on; end cycle when reset
```

```
button is pressed
{
    while(digitalRead(KeyRest)==0)
    {
        digitalWrite(Redled,LOW);
        digitalWrite(Greenled,LOW);
        digitalWrite(Yellowled,HIGH);
    }
    clear_led();
}
void Green_YES()   // execute the code until Green light is on; end cycle when reset
button is pressed
{
    while(digitalRead(KeyRest)==0)
    {
        digitalWrite(Redled,LOW);
        digitalWrite(Greenled,HIGH);
        digitalWrite(Yellowled,LOW);
    }
    clear_led();
}
void clear_led()   // all LED off
{
    digitalWrite(Redled,LOW);
    digitalWrite(Greenled,LOW);
    digitalWrite(Yellowled,LOW);
}
```

★ **Example picture**
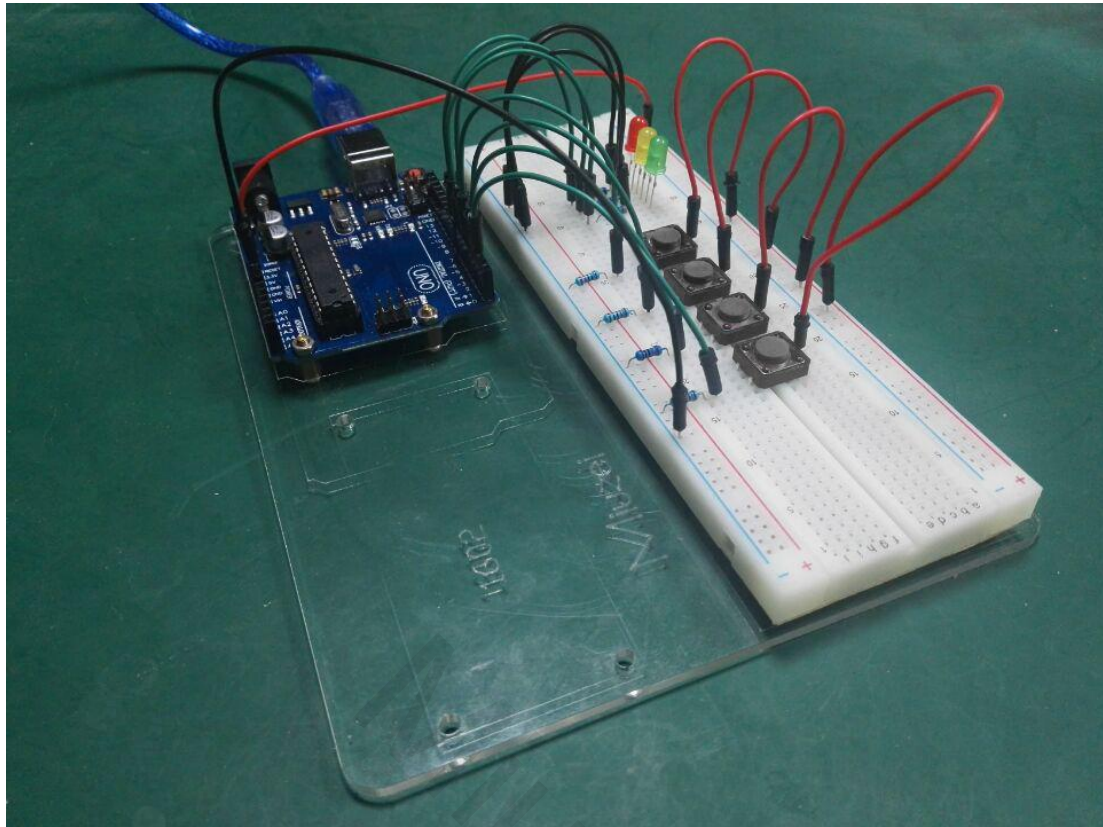
★ Language reference

Tips : click on the following name to jump to the web page.
If you fail to open, use the Adobe reader to open this document.
digitalRead()
== (equality)

★ Application effect

Whichever button is pressed first, then the corresponding LED will be on!

If you want to reset, hit the Reset button**.**

About Miuzei:

Miuzei found in 2011 , which is a professional manufacturer and exporter that concerned with open-source hardware research & product development, We have more than hundred engineers devote to developing open source hardware like Arduino, Raspberry pi ,3d printers , robots.

Miuzei committed to make more creative open source products and provide richer knowledge for enthusiasts worldwide.   No matter what your ideas are, we provide various mechanical parts and electronic modules to turn your ideas into success.

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