

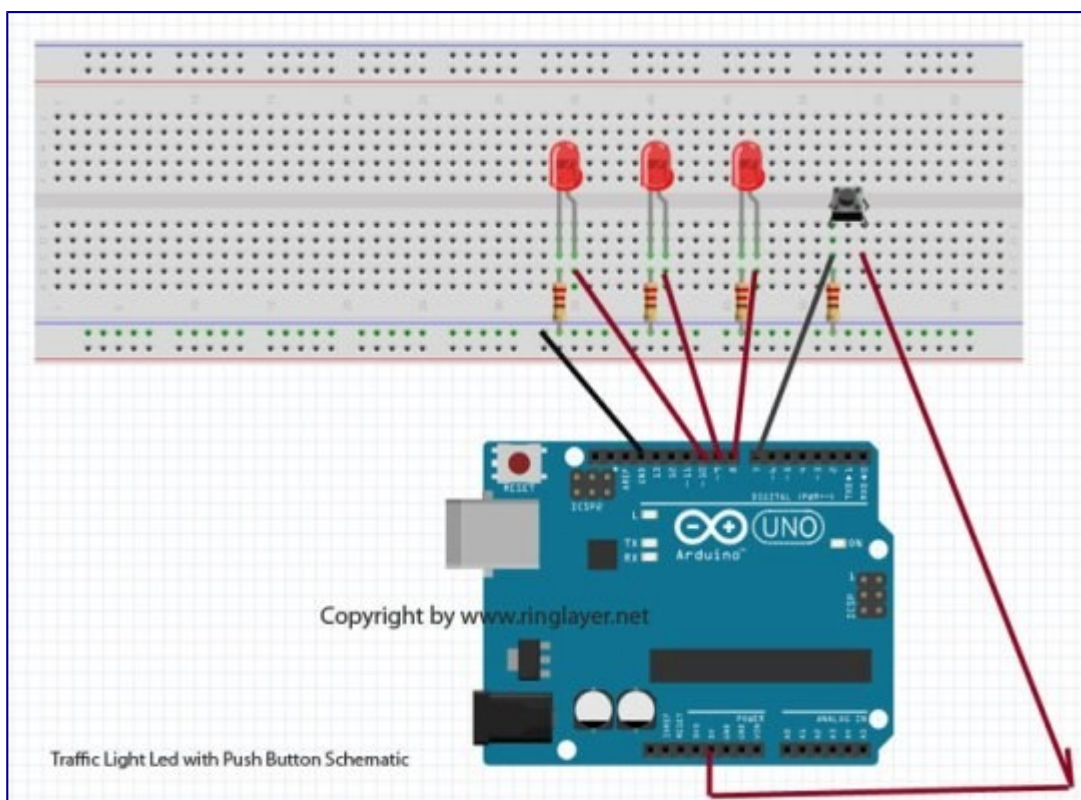
Traffic Light With Push Button Control

Written by : Antonius Ringlayer (@ringlayer)

<https://ringlayer.wordpress.com> – <http://www.ringlayer.com>- <https://ringlayer.github.io>

This is simple electronic project with prototyping (no solder requirement), we'll be using arduino and a push button to control a traffic light (rgb led)

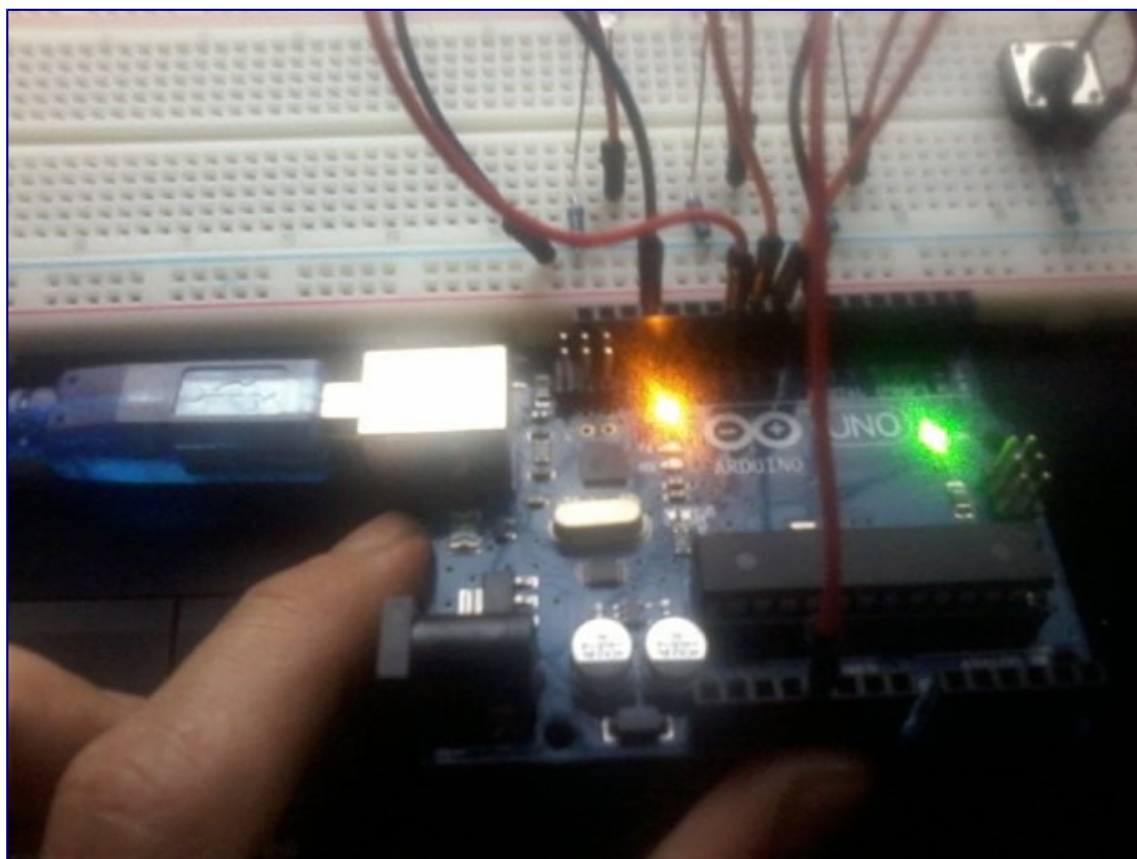
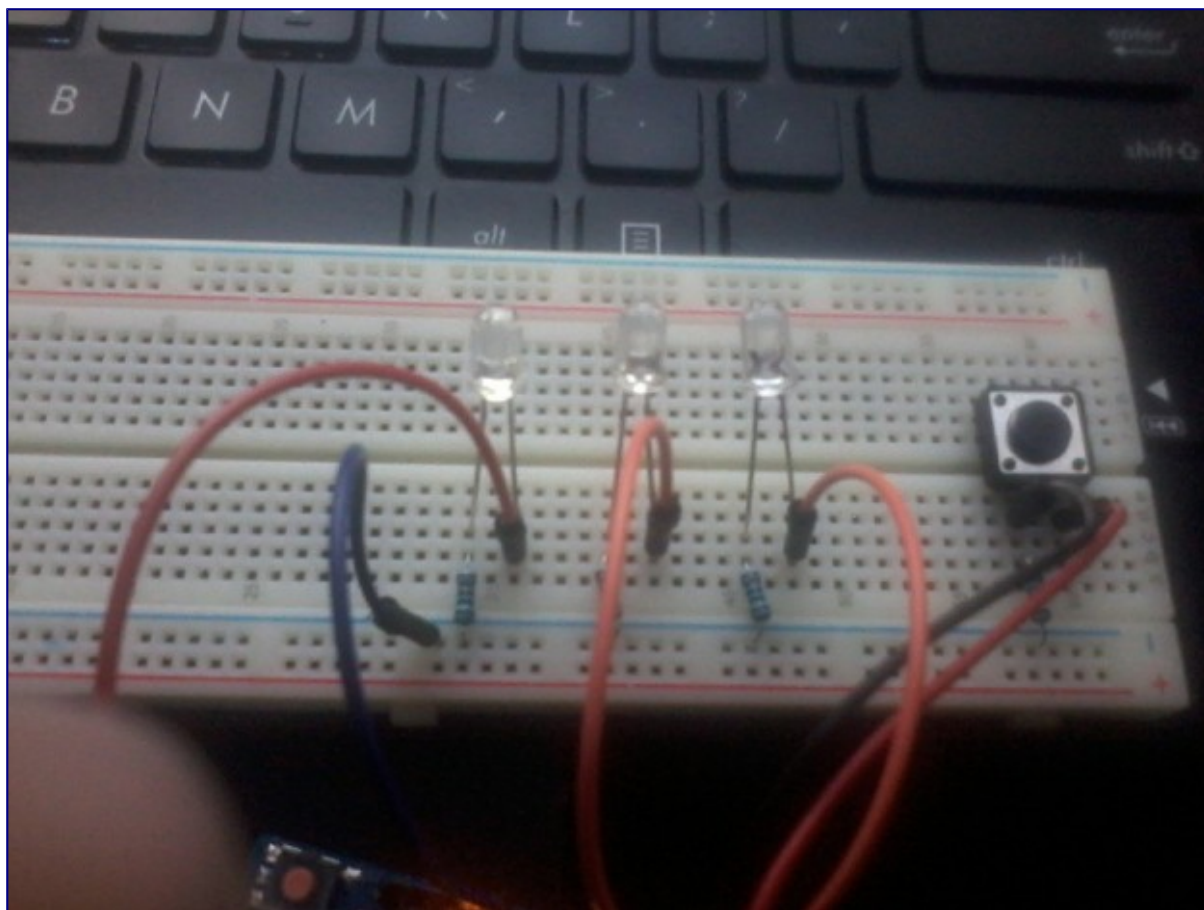
Fritzing

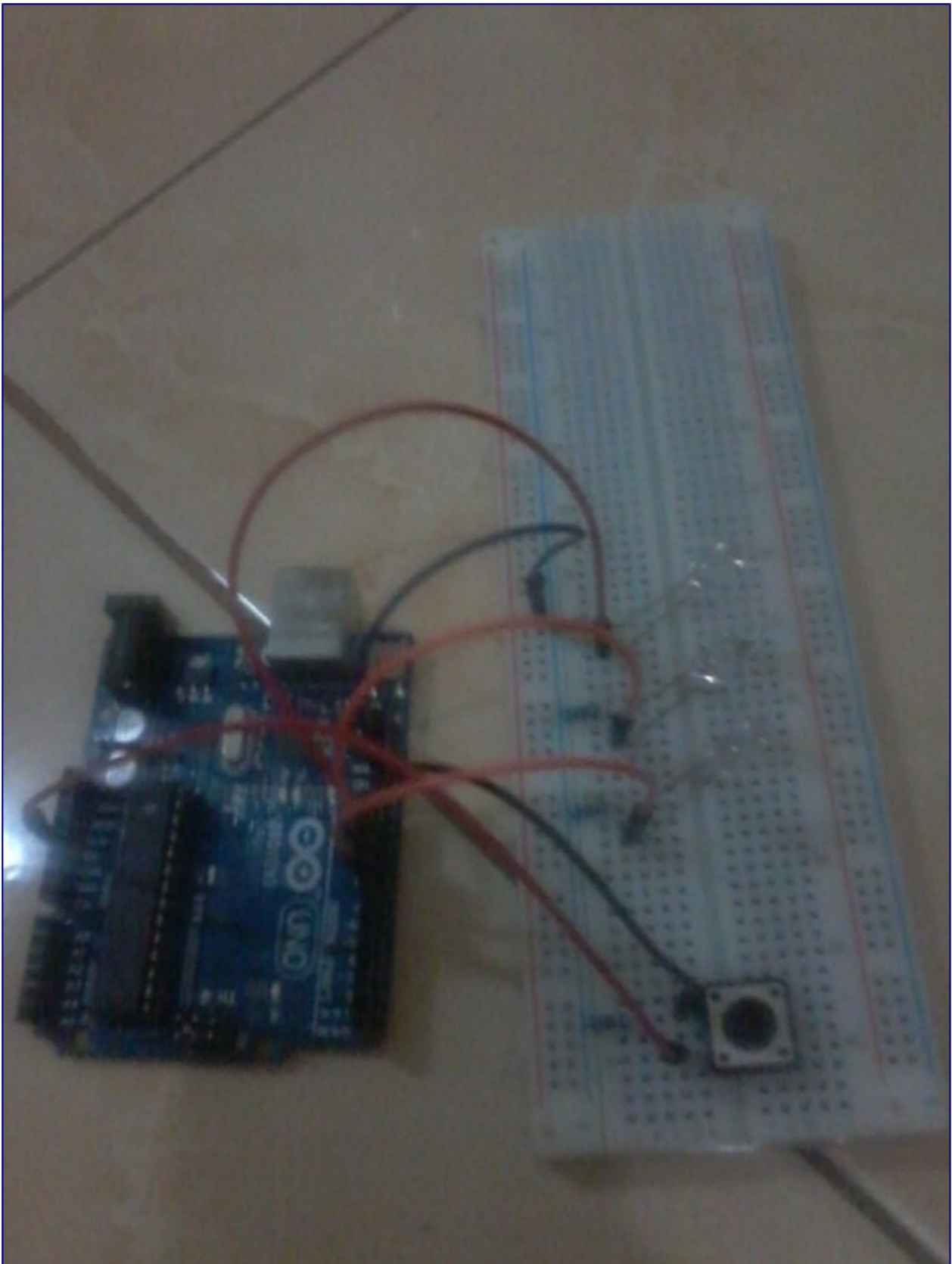


Hardware Requirements:

4 resistor 220 Ω , 1 resistor 10 k Ω , 1 breadboard, 3 led (red, green, blue), 1 arduino, 6 jumper wires, 1 push button

Fritzing





we use 220 ohm resistor for each led and we connect it to arduino using pwm pin 8, 9 and 10, connect 10 k ohm resistor to push button , red jumper wire for push button connected to 5v pin on arduino, meanwhile black jumper wire connected to pwm pin 7 on arduino. the last black jumper wire we connect to ground pin on arduino.

We use breadboard here to make it easy, we don't need to solder each component.

Arduino IDE Code

```
File Edit Sketch Tools Help

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/*
traffic light dengan saklar on off - made by Antonius (@Sw0rdm4n)
http://www.ringlayer.net
*/
int merah = 8;
int kuning = 9;
int hijau = 10;
int saklar = 7;
int on = 0;
int i;

void setup() {
  pinMode(merah, OUTPUT);
  pinMode(kuning, OUTPUT);
  pinMode(hijau, OUTPUT);
  pinMode(saklar, INPUT);
}

void _run()
{
  digitalWrite(hijau, HIGH);
  delay(4000);
  digitalWrite(hijau, LOW);
}

void _slow()
{
  digitalWrite(kuning, HIGH);
  delay(2000);
  digitalWrite(kuning, LOW);
}

void _stop()
{
  digitalWrite(merah, HIGH);
  delay(4000);
  digitalWrite(merah, LOW);
}

void _traffic_light()
{
  do
  {
    _run();
    on = digitalRead(saklar);
    if (on == 0) {
      _traffic_down();
    }
    else {
      _slow();
      on = digitalRead(saklar);
      if (on == 0) {
        _traffic_down();
      }
    }
  }
  while(1);
}

Done Saving.

Binary sketch size: 2,906 bytes (of a 28,672 byte maximum)

11
```



satu_saklar_tekan

```
    digitalWrite(merah, HIGH);
    delay(4000);
    digitalWrite(merah, LOW);
}

void _traffic_light()
{
    do
    {
        _run();
        on = digitalRead(saklar);
        if (on == 0) {
            _traffic_down();
        }
        else {
            _slow();
            on = digitalRead(saklar);
            if (on == 0) {
                _traffic_down();
            }
            else {
                _stop();
                on = digitalRead(saklar);
                if (on == 0) {
                    _traffic_down();
                }
                else {
                    _slow();
                }
            }
        }
        on = digitalRead(saklar);
    } while (on == 1);
}

void _traffic_down()
{
    for (i = 8; i < 11; i++) {
        digitalWrite(i, LOW);
    }
}

void loop(){
    on = digitalRead(saklar);
    Serial.println(on);
    if (on == 1) {
        _traffic_light();
    } else {
        _traffic_down();
    }
    delay(500);
}
```

Done Saving.

Binary sketch size: 2,906 bytes (of a 28,672 byte maximum)

Here's complete code :

```
/*
traffic light dengan saklar on off - made by Antonius (@Sw0rdm4n)
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*/
int merah = 8;
int kuning = 9;
int hijau = 10;
int saklar = 7;
int on = 0;
int i;
void setup() {
    pinMode(merah, OUTPUT);
    pinMode(kuning, OUTPUT);
    pinMode(hijau, OUTPUT);
    pinMode(saklar, INPUT);
}
void _run()
{
    digitalWrite(hijau, HIGH);
    delay(4000);
    digitalWrite(hijau, LOW);
}
void _slow()
{
    digitalWrite(kuning, HIGH);
    delay(2000);
    digitalWrite(kuning, LOW);
}
void _stop()
{
    digitalWrite(merah, HIGH);
    delay(4000);
    digitalWrite(merah, LOW);
}

void _traffic_light()
{
    do
    {
        _run();
        on = digitalRead(saklar);
        if (on == 0) {
            _traffic_down();
        }
        else {
            _slow();
            on = digitalRead(saklar);
            if (on == 0) {
                _traffic_down();
            }
            else {
                _stop();
                on = digitalRead(saklar);
                if (on == 0) {
                    _traffic_down();
                }
                else {
                    _slow();
                }
            }
        }
    }
    on = digitalRead(saklar);
}
```

```
    } while(on == 1);
}
void _traffic_down()
{
    for (i = 8; i < 11; i++) {
        digitalWrite(i, LOW);
    }
}
void loop(){
    on = digitalRead(saklar);
    Serial.println(on);
    if (on == 1) {
        _traffic_light();
    } else {
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    }
    delay(500);
}
```

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