Arduino Connections with KY-009 RGB LED Module

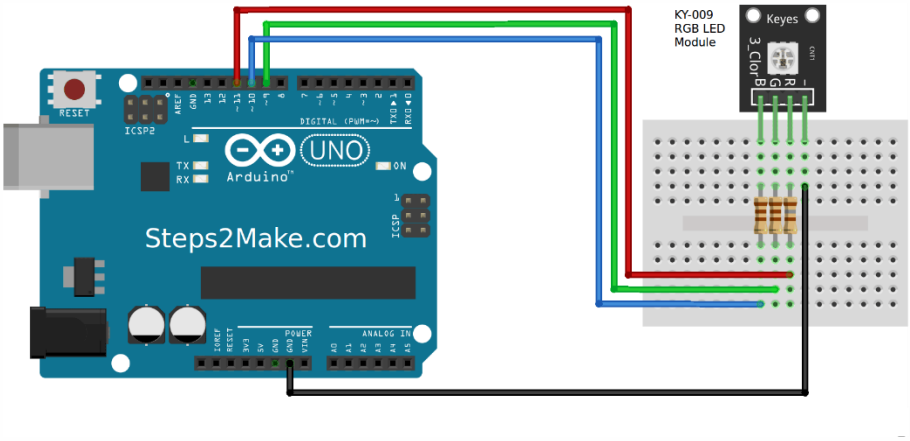

Figure 1: Arduino Connections with KY-009 RGB LED Module

Since you can't connect the led's directly to the Arduino you will need resistors!!
Arduino pin 9 –> 110 Ohm resistor –> Pin 'G' of KY-009 module
Arduino pin 10 –> 110 Ohm resistor –> Pin 'B' of KY-009 module
Arduino pin 11 –> 180 Ohm resistor –> Pin 'R' of KY-009 module
Arduino GND –> pin '-' of KY-009 module

Figure 2: KY-009 RGB LED Module

Arduino Code for KY-009 Module Interface

Note: Always use PWM Pins for RGB Led Module

This module provides a few LEDs – with the overlay of the different brightness levels, you can create different colors. This will be shown in the following code example. At the Raspberry Pi, only one Hardware-PWM channel is carried out unrestricted to the GPIO pins, that's why we have used Software-PWM on this example.

```
// RGB LED KY-009 Module

int Led_Green = 9;

int Led_Blue = 10;

int Led_Red = 11;
```

```
int val;



void setup () {

  //Output pin initialization for the LEDs

  pinMode (Led_Red, OUTPUT);

  pinMode (Led_Green, OUTPUT);

  pinMode (Led_Blue, OUTPUT);

}

void loop () {

   // In this for-loop, the 3 LEDs will get different PWM-values

   // Via mixing the brightness of the different LEDs, you will get different
colors.

   for (val = 255; val> 0; val--)

      {

       analogWrite (Led_Blue, val);

       analogWrite (Led_Green, 255-val);

       analogWrite (Led_Red, 128-val);

       delay (1);

   }

   // You will go backwards through the color range in this second for loop.

   for (val = 0; val <255; val++)

      {
```

```
      analogWrite (Led_Blue, val);

      analogWrite (Led_Green, 255-val);

      analogWrite (Led_Red, 128-val);

      delay (1);

   }

}
```

You can regulate the brightness of the LEDs via pulse-width modulation. The LEDs will be switched ON and OFF for specific time periods, in which the relation between ON and OFF leads to a relative brightness, because of the Inertia of the human eyesight, the human eye interprets the ON/OFF as a brightness change.