RGB LED

Overview

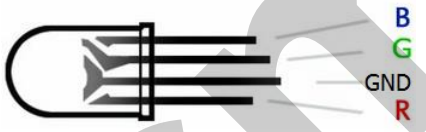
This lesson will teach you how to use a RGB (Red Green Blue) LED with an RPI, which is simple and easy to use.

Specification

RGB led:

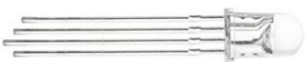
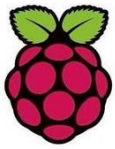
Emitting Light Color: Blue, Red, Green
Size(Approx): 5 x 35mm/ 0.2" x 1.37" (D * L)
Forward Voltage: 3.0-3.4V
Luminous Intensity: 12000-14000mcd

Pin definition



RGB LED		RPI
R	->	GPIO17
GND	->	GND
G	->	GPIO27
B	->	GPIO22

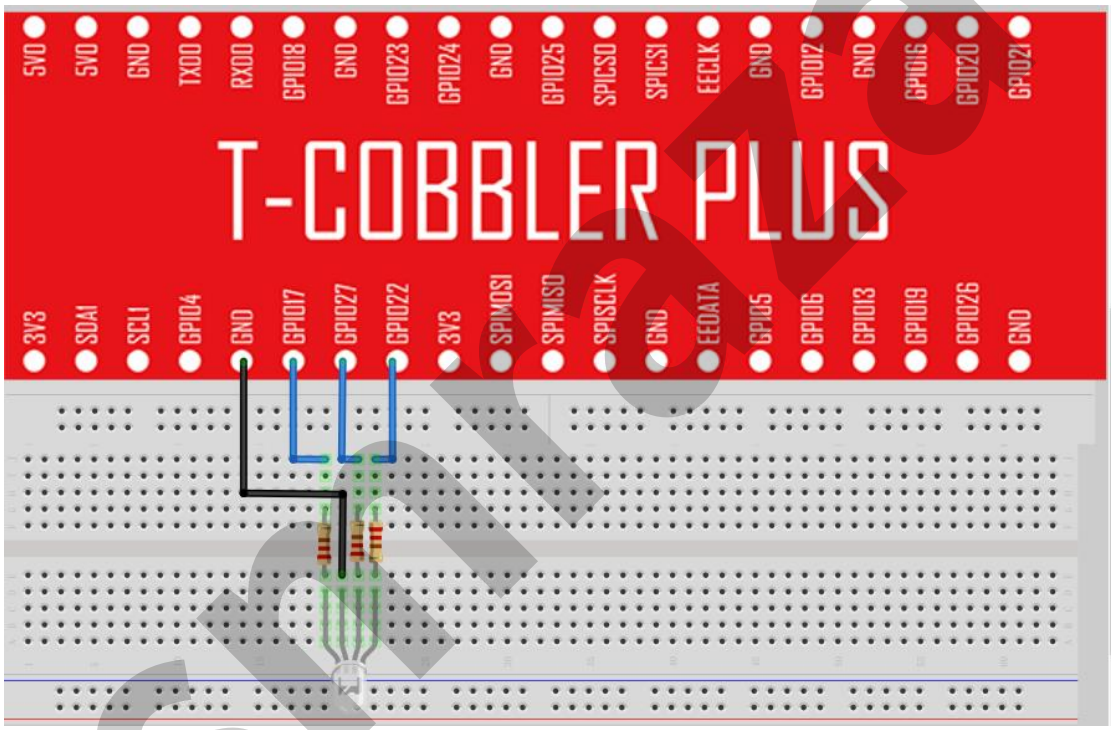
Hardware required

Material diagram	Material name	Number
	RGB LED	1
	220/330Ω resistor	3
	Raspberry Pi Board	1

---Designed by Smraza Keen

	T-Cobbler Plus	1
	40P GPIO Cable	1
	Breadboard	1
	Jumper wires	Several

Connection diagram



Connection

RGB LED RPI
R -> GPIO17
GND -> GND
G -> GPIO27
B -> GPIO22

Sample code

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

```
#include <wiringPi.h>
#include <stdio.h>
#define Rled 0
#define Gled 2
#define Bled 3
```

---Designed by Smraza Keen

```
int main(void)
{
   printf( "Welcome to Smraza\n");
   printf( "Raspberry Pi RGBled test program\n" );
   printf( "Press Ctrl+C to exit\n" );
   wiringPiSetup() ;
   pinMode (Rled,OUTPUT);
   pinMode (Gled,OUTPUT);
   pinMode (Bled,OUTPUT);
   while(1)
   {
     digitalWrite(Rled,LOW);
     digitalWrite(Gled,HIGH);
     digitalWrite(Bled,HIGH);
     delay(1000);
     digitalWrite(Rled,HIGH);
     digitalWrite(Gled,LOW);
     digitalWrite(Bled,HIGH);
     delay(1000);
     digitalWrite(Rled,HIGH);
     digitalWrite(Gled,HIGH);
     digitalWrite(Bled,LOW);
     delay(1000);
     digitalWrite(Rled,LOW);
     digitalWrite(Gled,LOW);
     digitalWrite(Bled,HIGH);
     delay(1000);
     digitalWrite(Rled,LOW);
     digitalWrite(Gled,HIGH);
     digitalWrite(Bled,LOW);
     delay(1000);
     digitalWrite(Rled,HIGH);
     digitalWrite(Gled,LOW);
     digitalWrite(Bled,LOW);
     delay(1000);
   }
}
```

Compiling: gcc -Wall -o RGBled RGBled.c -lwiringPi

Run: sudo ./RGBled

Tips: Press “Ctrl+C” to exit

Application effect

When you are running program, you will see the LED loop emit 6 different colors of light.