#include <SoftwareSerial.h>

#include <Wire.h>//Include libraries: SoftwareSerial & Wire

SoftwareSerial BT(11,12); //Define PIN11 & PIN12 as RX and TX pins

//RGB LED Pins

int PIN\_RED = 3;

int PIN\_GREEN = 5;

int PIN\_BLUE = 6;

//RED LED at Pin 13

int RED\_LED = 13;

String RGB = ""; //store RGB code from BT

String RGB\_Previous = "255.255.255)"; //preserve previous RGB color for LED switch on/off, default White

String ON = "ON"; //Check if ON command is received

String OFF = "OFF"; //Check if OFF command is received

boolean RGB\_Completed = false;

void setup() {

Serial.begin(9600); //Arduino serial port baud rate：9600

BT.begin(9600);//My HC-05 module default baud rate is 9600

RGB.reserve(30);

pinMode(RED\_LED, OUTPUT);

//Set pin13 as output for LED,

// this LED is on Arduino mini pro, not the RGB LED

}

void loop() {

// put your main code here, to run repeatedly:

//Read each character from Serial Port(Bluetooth)

while(BT.available()){

char ReadChar = (char)BT.read();

// Right parentheses ) indicates complet of the string

if(ReadChar == ')'){

RGB\_Completed = true;

}else{

RGB += ReadChar;

}

}

//When a command code is received completely with ')' ending character

if(RGB\_Completed){

//Print out debug info at Serial output window

Serial.print("RGB:");

Serial.print(RGB);

Serial.print(" PreRGB:");

Serial.println(RGB\_Previous);

if(RGB==ON){

digitalWrite(13,HIGH);

RGB = RGB\_Previous; //We only receive 'ON', so get previous RGB color back to turn LED on

Light\_RGB\_LED();

}else if(RGB==OFF){

digitalWrite(13,LOW);

RGB = "0.0.0)"; //Send OFF string to turn light off

Light\_RGB\_LED();

}else{

//Turn the color according the color code from Bluetooth Serial Port

Light\_RGB\_LED();

RGB\_Previous = RGB;

}

//Reset RGB String

RGB = "";

RGB\_Completed = false;

} //end if of check if RGB completed

} // end of loop

void Light\_RGB\_LED(){

int SP1 = RGB.indexOf('.');

int SP2 = RGB.indexOf('.', SP1+1);

int SP3 = RGB.indexOf('.', SP2+1);

String R = RGB.substring(0, SP1);

String G = RGB.substring(SP1+1, SP2);

String B = RGB.substring(SP2+1, SP3);

//Print out debug info at Serial output window

Serial.print("R=");

Serial.println( constrain(R.toInt(),0,255));

Serial.print("G=");

Serial.println(constrain(G.toInt(),0,255));

Serial.print("B=");

Serial.println( constrain(B.toInt(),0,255));

//Light up the LED with color code

//\*\*2014-09-21

//Because these RGB LED are common cathode (Common negative)

//So we need to take 255 to plus R,G,B value to get correct RGB color code

analogWrite(PIN\_RED, (255+R.toInt()));

analogWrite(PIN\_GREEN, (255+G.toInt()));

analogWrite(PIN\_BLUE, (255+B.toInt()));

}