Peripherals Code

```
//set up one variable for each pin which is used
int sensorPin = A3;
int red = 11;
int green = 10;
int blue = 9;
int buttonPin = 2;

//Variables for time schedule through function millis
int currentMillis = 0;
int lastMillis = 0;
int interval = 2500;

bool buttonState;

void setup()
{
  pinMode(buttonPin, INPUT);

  pinMode(red, OUTPUT);
  pinMode(green, OUTPUT);
  pinMode(blue,OUTPUT);
  pinMode(sensorPin, INPUT);

  Serial.begin(9600);
}

void loop()
{
  //Use millis like 2nd lab
 currentMillis = millis();
  if(currentMillis - lastMillis >= interval) {
     lastMillis = currentMillis;
      readTemp(); //call function to read temperature
    }

  //Check if the button is pressed
 buttonState = digitalRead(buttonPin);
 if(buttonState)
     {readTemp();}
}

// function for reading temperature
// tranform voltage to temperature
float readTemp() {
 int reading = analogRead(sensorPin);
 float voltage = (reading * 5.0) / 1024;
 float temp = (voltage - 0.5) * 100 ;
 Serial.print(temp); Serial.println(" degrees C");
 setRGB(temp);//call function to control RGB LED
}

//function for setting colour to LED
void setRGB(float temp) {
```

```
  if( temp<5) {
          analogWrite(blue,255);
          analogWrite(red,0);
          analogWrite(green,0);
  }
  else if (temp>25) {
          analogWrite(red,255);
          analogWrite(blue,0);
          analogWrite(green,0);
  }
  else {
          analogWrite(red,255);
          analogWrite(green,255);
          analogWrite(blue,0);
  }
}
```