

壹、專題摘要

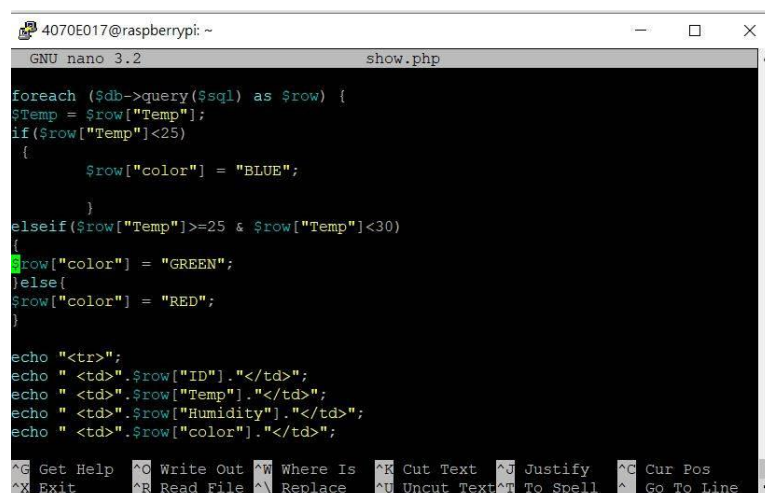
將 DH22 溫濕度上傳到 Raspberry Pi 資料庫內，NodeMCU 同時需要讀取資料庫的溫度，以此溫度值控制 LED 的顏色，28 度以下顯示藍燈，28~40 度顯示綠燈，40 度以上顯示藍燈，截圖說明實作過程。

貳、實作內容

1. 撰寫並燒錄 Arduino 程式碼進到 nodemcu，程式碼內有辨識溫度，透過 LED 變色

```
76 if (t<25)
77 {
78     digitalWrite(redLED,LOW); //點亮共陽型紅燈
79     digitalWrite(greenLED,LOW); //滅掉綠燈
80     digitalWrite(blueLED,HIGH);
81 }
82 else if (t>= 25 & t<30) //若 濕度未大於80%，則
83 {
84     digitalWrite(redLED,LOW); //滅掉紅燈
85     digitalWrite(greenLED,HIGH); //點亮綠燈
86     digitalWrite(blueLED,LOW);
87 }
88 else{
89     digitalWrite(redLED,HIGH); //滅掉紅燈
90     digitalWrite(greenLED,LOW); //點亮綠燈
91     digitalWrite(blueLED,LOW);
92 }
93 }
```

2. 撰寫 php 程式碼，內有透過溫度變數分辨溫度後，顯示顏色



```
4070E017@raspberrypi: ~
GNU nano 3.2 show.php
foreach ($db->query($sql) as $row) {
$Temp = $row["Temp"];
if ($row["Temp"]<25)
{
    $row["color"] = "BLUE";
}
elseif ($row["Temp"]>=25 & $row["Temp"]<30)
{
    $row["color"] = "GREEN";
}
else{
    $row["color"] = "RED";
}

echo "<tr>";
echo " <td>".$row["ID"]."</td>";
echo " <td>".$row["Temp"]."</td>";
echo " <td>".$row["Humidity"]."</td>";
echo " <td>".$row["color"]."</td>";
}
```

3. 查看 Raspberry Pi 資料庫內溫溼度數據

```
4070E017@raspberrypi: ~  
576 | 27.50 | 99.90 | 2021-01-11 16:31:46 |  
577 | 25.00 | 99.90 | 2021-01-11 16:31:49 |  
578 | 26.10 | 99.90 | 2021-01-11 16:31:52 |  
579 | 25.90 | 99.90 | 2021-01-11 16:31:58 |  
580 | 26.80 | 99.90 | 2021-01-11 16:32:02 |  
581 | 25.80 | 99.90 | 2021-01-11 16:32:06 |  
582 | 25.30 | 99.90 | 2021-01-11 16:32:09 |  
583 | 24.70 | 99.90 | 2021-01-11 16:32:17 |  
584 | 24.70 | 99.90 | 2021-01-11 16:32:18 |  
585 | 24.50 | 99.90 | 2021-01-11 16:32:21 |  
586 | 24.00 | 99.90 | 2021-01-11 16:32:25 |  
587 | 24.30 | 99.90 | 2021-01-11 16:32:28 |  
588 | 24.30 | 99.90 | 2021-01-11 16:32:32 |  
589 | 24.40 | 99.90 | 2021-01-11 16:32:35 |  
590 | 24.40 | 99.90 | 2021-01-11 16:32:39 |  
591 | 24.40 | 99.90 | 2021-01-11 16:32:43 |  
592 | 24.10 | 99.90 | 2021-01-11 16:32:46 |  
593 | 24.00 | 99.90 | 2021-01-11 16:32:50 |  
594 | 23.90 | 99.90 | 2021-01-11 16:32:54 |  
595 | 23.90 | 99.90 | 2021-01-11 16:32:57 |  
-----  
578 rows in set (0.011 sec)  
MariaDB [Sensors]>
```

叁、成果展示

展示不同溫度，有不同顯示的變化

