

Discussion1

- ♦ Why do usually we put a resistor with LED? If we do not put the resistor, what will happen?

Ans: 電阻在電路中能引導電流，還有分流、分壓等作用，如果沒有放電阻的話，會使 LED 可能遭到毀壞。

- ♦ For a 4-band resistor with all red, what is the resistor value?

Ans: $22 \times 10^2 \pm 2\%$ ，也就是說電阻值會落在 2156 到 2244 歐姆之間。

Discussion 2

- ♦ Please draw a line chart to show the button state (before/after press button).

Ans:



Discussion 3

- ♦ Can we map the input voltage into finer range? Current: Map input voltages 0~5 volts ---> 0~1023

Ans: 可以，用很多個 10-bits。

Discussion 4

- ♦ Is it possible to watch the fade effect by our eyes? If yes, how to watch?

Ans: 可以，以手機錄製慢速低 fps 的影片。