

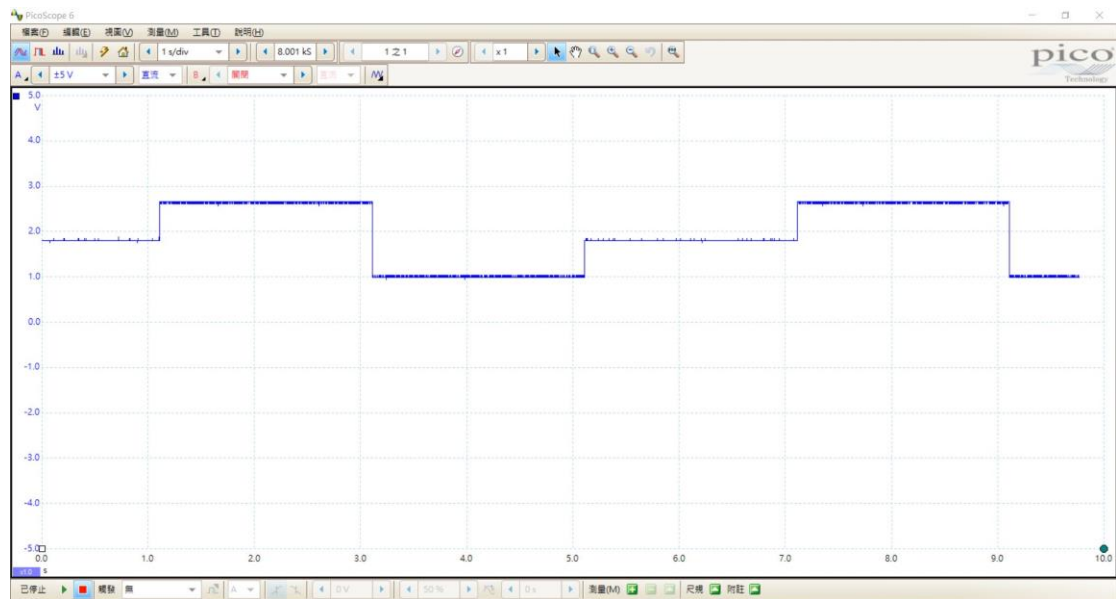
In this lab, I learned how to create analog signal from DAC on mbed and the difference between analog output and PWM output.

### (1) PicoScope

We use it as function generator and oscilloscope, I think it's easier than using those heavy machines in laboratory, the software it's much easier to apply.

### (2) Lab3 1 Analog out

In this lab, we can figure out how ADC work in mbed and the max voltage is 3.3V in this system.

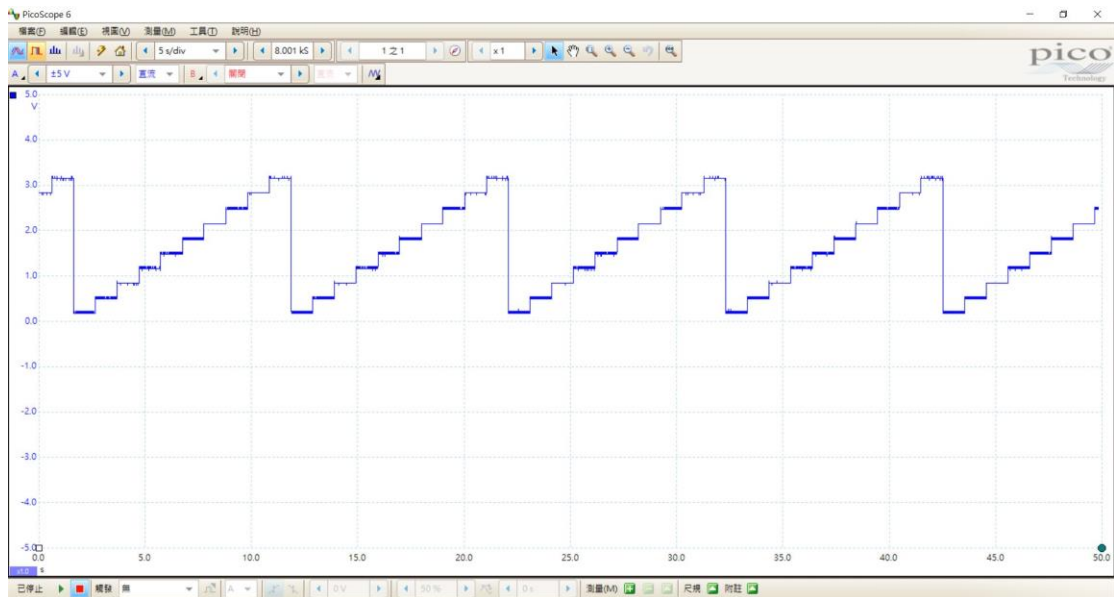


### (3) Lab3 2 Sawtooth waveform

In this lab we also see how to read in analog signal. Pin(A\_4) is also a ADC pin. By using this function:

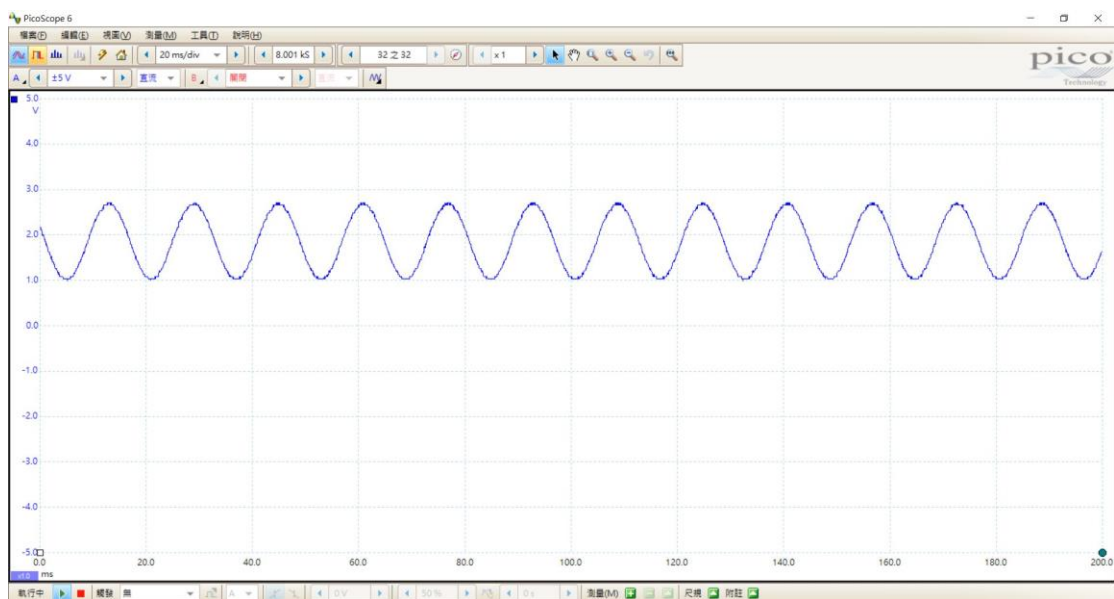
`object.read()`

we can read in the voltage, and we can see the sawtooth function created by the mbed system.



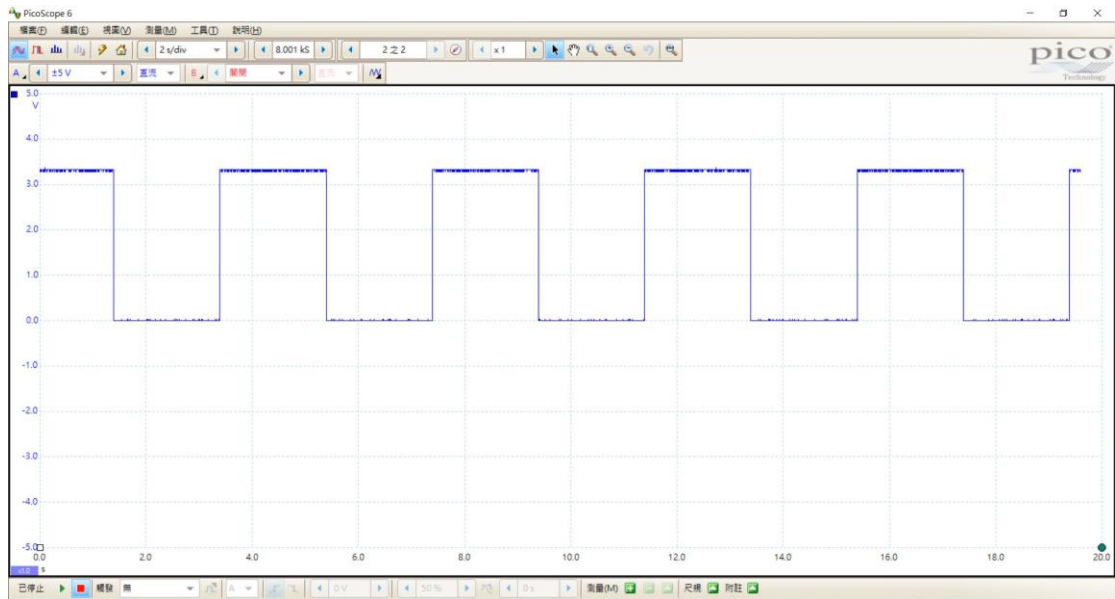
#### (4) Lab3 3 Sine waveform

In this lab we see the sine waveform created by mbed system.



#### (5) Lab3 4 PWM Output

In this lab we saw PWM signal created by mbed system, which is quite different with signal produced above, by changing duty cycle we can produce PWM that can control motor or LED.



## (6) Discussion

We saw two kinds of signal created by mbed signal, Analog signal and PWM signal created by mbed signal. Also DAC produce different shape of waveform with several different voltage and PWM system by changing the pulse width of fixed frequency rectangular waveform.