TO: Prof. Pierre-Emmanuel Gaillardon, Course Instructor
FROM: David Venegas
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SUBJECT: Post-Lab 06 (Analog)

1. **Consider a system where the DAC is updated every 4us (250 kHz) with a value from a 200-element wave table containing a single cycle of a waveform. What would be the frequency of the output wave?**

$$\frac{250KHz}{200\ samples} = 1250\ Hz$$

2. **Consider that the ADC in 12-bit mode divides the input voltage range (0-3V) into 4096 steps (where 0V is 0, and 3V is 4095)**

• What is the voltage/measurement resolution (how much does the voltage change per bit) of the ADC?

$$\frac{V_{REF}}{2^{Nb}} = \frac{3}{2^{12}} = 0.732mV/step$$

• What would be the ADC output value (nearest integer) if the input voltage was 1.75V?

$$\frac{1.75V}{0.732mV/step} = 2388\ step$$