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Prelab 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?

The frequency of the output wave would be 1.25 kHz.

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?

     The voltage/measurement resolution of the ADC in 12-bit mode is approximately 0.000732 volts per bit.

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

     The ADC output value would be approximately 2.389.