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## • Sampling:

- Derive the minimally required sampling rate:
  - $f_s > 2f_{max}$ ,  $Ts < T_{min}/2$
  - Can estimate T<sub>min</sub> from signal waveform
- Can plot the spectrum of a sampled signal
  - The sampled signal spectrum contains the original spectrum and its replicas (aliases) at k f<sub>s</sub>, k=+/- 1,2,....
  - Can determine whether the sampled signal suffers from aliasing
- Understand why do we need a prefilter when sampling a signal
  - To avoid alising
  - Ideally, the filter should be a lowpass filter with cutoff frequency at  $f_s$  /2.
  - Can show the aliasing phenomenon



## Homework Assignment

- Chapter 2: exercise pg. 44-47
- Question 2, 5, 9
- Due: wed. April 7 before class