SEEING FILTER FREQUENCY RESPONSE

Filter Frequency Response (Method I)

- To see frequency response of a vector of filter coefficients
- `freqz()`
  - Exact frequency response
  - Very fast

Filter Frequency Response (Method II)

- To see frequency response of a filter (method II)
- 1) Make flat (white) spectrum input signal
- 2) Send signal into filter and look at output spectrum
  - Requires many samples for accurate output (not exact)
  - Much slower
  - Sometimes the only way to see spectrum (e.g., an arbitrary signal, not a filter response)
  - Example
    - `in = rand(1, 100000) – 0.5;`
    - `out = conv(coeffs, in) + 0.25;    % Hypothetical ¼ LSB bias`
    - `abs(fft(out))`
    - `psd(out)`
    - `spectrum(out)`