



HW 2

The noisy ECG signals are provided in the file `ecg.hfn.dat` and `ecg_lfn.dat`. The sampling rate of these two signals is 1000 Hz.

- 1. Downsample the signal by 5. Keep only every 5th sample and the sampling rate will be reduced from 1000 Hz to 200 Hz. Plot the downsampled signals.
($x_d[n] = x[5n]$)
- 2. Applied the function of `resample` in Matlab to perform the above process.

resample Resample uniform or nonuniform data to a new fixed rate.

`Y = resample(X,P,Q)` resamples the values, `X`, of a uniformly sampled signal at `P/Q` times the original sample rate using a polyphase antialiasing filter. If `X` is a matrix, then `resample` treats each column as an independent channel.

- Compare the results with the original signals.

Due date: PPT report **9:10 a.m. 10/11 2023**