EED305-Lab-2

Course: Digital Signal Processing **Instructor:** Dr. Madhur Deo Upadhayay

1. Generate a sinusoidal input sequence of length $N = 50$, with a frequency of $50Hz$. Perform the *up-sampling* operation, with an up-sampling factor of 3 and plot the input sequence and its up-sampled version.
2. Repeat the above problem for *down-sampling* operation, by considering a down-sampling factor of 3, then plot both input sequence and its down-sampled version.
3. Plot the frequency response of the *Original*, *up sampled* and *down sampled* signals. And write you conclusions.

*__Note:__ 1. Use the *FreqCal()* function to compute the DTFT

2. Generalize your program as much as possible, which will be helpful for further labs

3. Zip all your files (includes soft copy and '.m' files) and submit to respective lab TA.