

Instructions

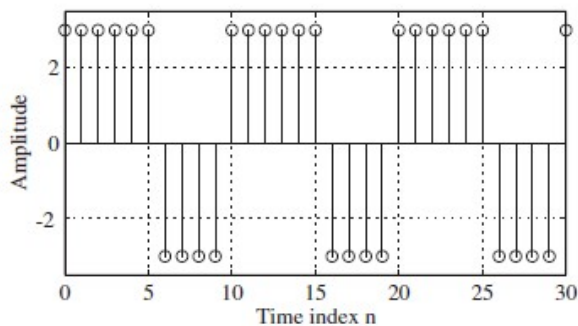
- a) All plots/graphs should have suitable title, labels, axis scaling and (legends if any).
- b) Use “Publish” command of MATLAB to generate the pdf file inclusive of code and output figures. **Section 1 of the MATLAB code should contain Author’s name and ID number.**
- c) Refer to following link for using publish command -
<https://in.mathworks.com/videos/publishing-matlab-code-from-the-editor-101570.html>
- d) If you have report generator tool available, then you can make use of the same for report generation in MATLAB.

Lab session 1

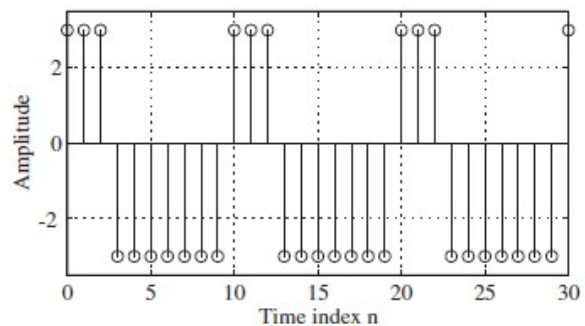
This lab exercise contains two problem statements. You need to make a single MATLAB file for both examples and generate a single pdf file using Publish command. Specify details of examples using proper titles and subtitles.

Example 1 –Use Square and Sawtooth functions –

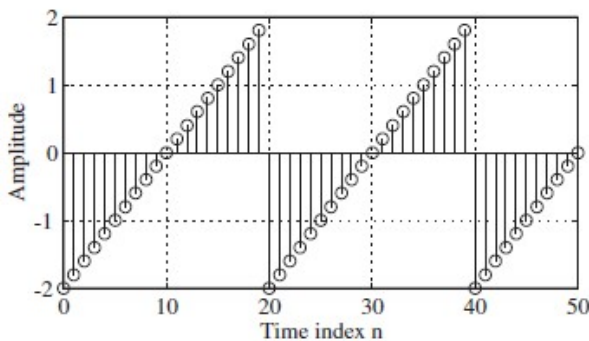
- 1) Write MATLAB program to generate the square wave and the sawtooth wave sequences of the types shown in Figure below.
Use a 2*2 grid to plot all 4 figures in one window. Provide proper titles and labels to the figure.



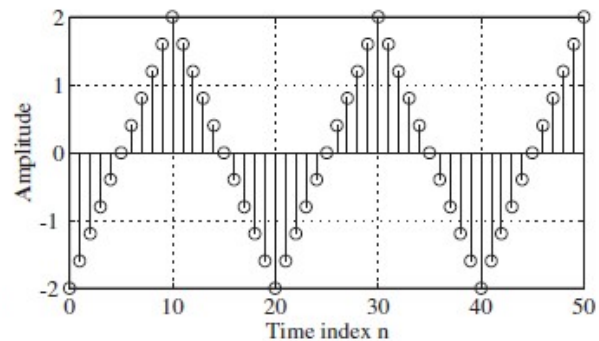
(a)



(b)



(a)

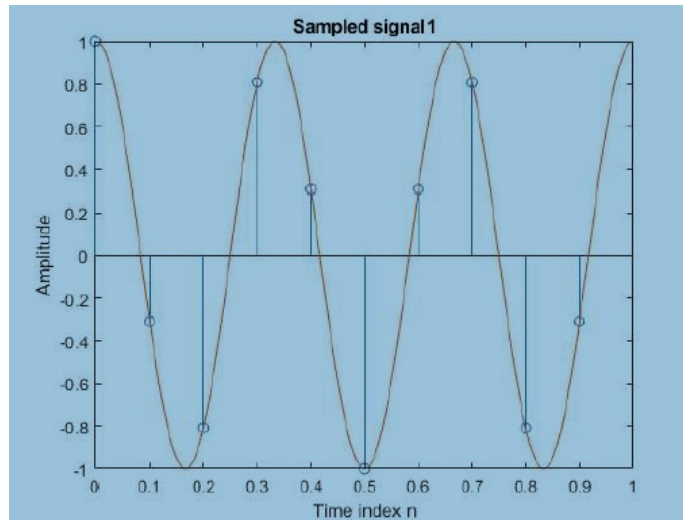


(b)

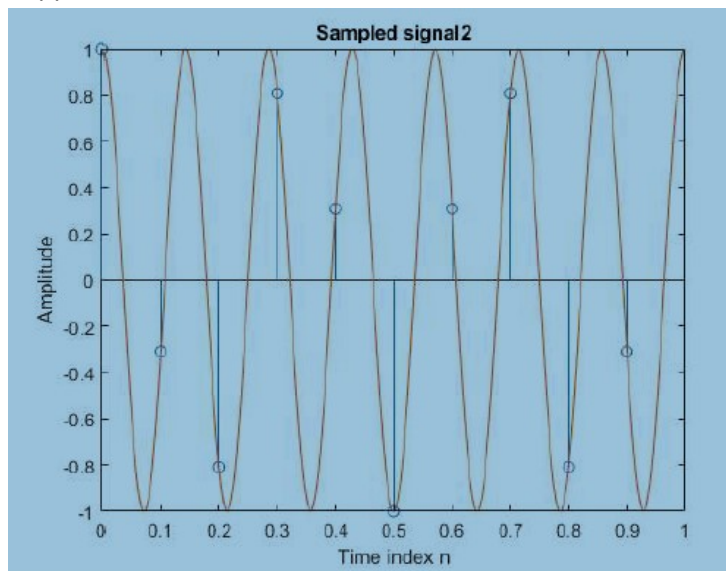
Example 2 – Sampling of sinusoidal waveform -

- 1) Plot a cosine signal of 3 Hz i.e $f_1(t) = \cos(2\pi \cdot 3t)$. Use time vector as $t = 1 = 0:0.001:(1-0.001)$. Sampling the above signal at 10 samples/sec. Plot the sampled output in the same figure by using “hold on” command.

Figure 1 would appear as follows –



- 2) Similarly, Plot cosine signal of 7 Hz using same time vector as (1) and sample the signal using 10 samples/sec. Plot the sampled output in the same figure by using “hold on” command. Figure 2 would appear as follows:



- 3) Generate the sampling list of the above 2 sequences and verify that the list is same.