## CT321: DSP Lab - 2: Convolution

- 1. Write a MATLAB function mylinconvmat.m that takes in the impulse response and the input sequence length and outputs the matrix representing the convolution. Compute and plot the convolution results for some cases. Compare your results with the convolution output obtained using the inbuilt MATLAB function conv.m.
- 2. Write a MATLAB function mycircconvmat.m that takes in the impulse response and outputs the matrix representing the circular convolution matrix. Compute and plot the convolution results for some cases. Compare your results with the convolution output obtained using the inbuilt MATLAB function cconv.m.
- 3. Write a MATLAB function mycircconvmat2.m that takes in the impulse response and an input sequence, possibly of different lengths and produces an output corresponding to the linear convolution between the two sequences using mycircconvmat.m. Compute and plot the convolution results for some cases. Compare your results with the convolution output obtained using the inbuilt MATLAB function conv.m.

## Instructions

- 1. Name your report as ID-no\_lab2.pdf. Reports written in LATEX will fetch one extra mark.
- 2. Collect the files: ID-no\_lab2.pdf, mylinconvmat.m, mycircconvmat.m and mycircconvmat2.m in a single zip file named ID-no\_lab2 and submit by uploading it on courses.daiict.ac.in.
- 3. Submit only one zip file per group, where a group should not contain more than 3 students. Students should take turn in writing and submitting reports and MATLAB files. Clearly mention the group members in the report and code.
- 4. Submissions must be done within 5 days of the lab, i.e., Monday's batch should submit by Friday midnight.