Assignment 7: Submission Deadline: 30-12-2022

1) Write a MATLAB/ Python program to find one sided z-transform of the following standard causal signals.

a) n b) a^n c) na^n d) e^{-anT}

2) Write a MATLAB/ Python program to find z-transform of the following standard causal signals.

a) 0.5^n b) $1+n(0.4)^{(n-1)}$

3) Write a MATLAB/ Python program to find inverse z-transform of the following z-domain signals.

a) $1/(1 - 1.5z^{-1} + 0.5z^{-2})$ b) $1/((1 + z^{-1}) + (1 - z^{-1})^2)$

Note:

1. Install and import all necessary packages based on the task given. eg. lcapy in python.
2. It is encouraged to try the assignment with MATLAB. You may login using college email id and run through online option.
3. After execution download .pdf and .ipynb file which includes code, explanation as well as output.

Do's:

- Please submit before deadline.
- In Jupyter notebook please add the complete explanation for the topic and modules/libraries you used to complete the lab exercise.
- Once you complete the lab exercise please record the working demo screenshot of the exercise and upload.
- Save your notebook filename and video as your_roll_no.ipynb. (eg. 217IT49_yourname.ipynb).

Dont's:

1. Do not to share the solution of the lab exercise with the other groups.