

Assignment 5

1. Generate signal (as a sum of 5 Hz sine and 10 Hz cosine) for sampling rates $f_s = 100$ and 1000 Hz. Compute amplitude spectrum using FFT with $n_{FFT} = 1000$. Plot the signals and their amplitude spectra.
2. Generate specific spectra (5 Hz sine and 10 Hz cosine) and apply inverse Fourier transform to reconstruct the signal. Plot amplitude spectra and signal.
3. Write a short report about your script (3 pages max) including figures.

Save the report to a file (A05_your_surname.pdf) and upload it together with your Python script (A05_your_surname.py) to the assignment webpage. The *.pdf and *.py files can be zipped and uploaded as a single zip file (A05_your_surname.zip).