

Seperable 2D DFT Calculation Tutorial Exercise

Given:

$$x(n_1, n_2) = a^{n_1}, 0 \leq n_1 < N_1, 0 \leq n_2 < N_2$$

- Find the DFT of the sequence by calculating first the 1D DFT of each row of $x(n_1, n_2)$ and then the 1D DFT of each column of the resulting matrix.
- Repeat the DFT calculation but first calculate the 1D DFT of each column. Compare the results.