In the Name of God
Course: 1st project_ASDP_2nd term_03-04
2D Fourier
Assigned: 17-11-1403
Due: 18-12-1403

1. Take an earth model of four horizontal layers over a half-space with the following specifications (thicknesses of 500, 600, 400, 500 m, *P*-wave velocities of 2.5, 3, 3.5, 3, 4 m/ms, densities of 2.2, 2.4, 2.5, 2.4, 2.6 g/cm3. (a) Plot *P*-wave velocity, and seismic impedance logs in depth. (b) Convolve the reflectivity series with a Ricker wavelet of the peak frequency of 60 Hz. (c) Plot impedance log and reflectivity series in two-way time and the Ricker wavelet. (d) Generate a seismic section consisting of 11 traces of (c) with a trace interval of 25 m, and sample interval of 4 ms. (d) Rotate reflections of (d) with 10, 20, 30, 40, 50, 60, 70, 80, and 90 ms/trace, and plot them.
2. (a) Plot *f*-*k* of (1d). (b) If there is spatial aliasing in any section of (2a), make your suggestion to remove the spatial aliasing. (c) Apply your suggestion on aliased sections. (d) Explain your method of (2b).

Your PPTs should have theories, flowcharts, codes, conclusions, and references. I encourage you to work in a group, but you need to have your codes and PPTs. E-mail your PPTs to my Gmail not later than due date.
Regards,
Javaherian