The fft.py program does a one dimensional Fourier Transform. To do a two dimensional Fourier Transform one needs only do a one dimensional Fourier Transform in each of the directions. Write a program which takes two two dimensional arrays, input[][], complex data and does a two dimensional transform.

Since python 2d arrays are lists of lists, the first dimension is easy, just call fft() with each array, in a loop call: fft(input[i])

but to do the second dimension, to do some work.

Test your code by giving it a 512 X 512 matrix test with test[i,j]= 0, unless ((i − 256) * (i − 256) + (j − 256) * (j − 256)) < 7 in which case test[i,j]=512 and then make a pic of the FT power function of the fourier transform (the modulus squared).