Homework 4: Semi-Blind Deconvolution
Due: Wednesday Mar. 21

1. You are given the file "ugly.mat" on the Collab. It contains a 128x128 image. The image is complex-valued – you can display by taking the real part. It has been blurred with an average-type filter of unknown width (see below).
2. Deconvolve (restore) this image. What was the width of the average kernel?

   Submit code, width, and restored image in one pdf on Collab… gracias.

You'll have to deconvolve in the frequency domain…

The perfect image is of my son Colby when he was a baby…

How did I make the blurry image?
I embedded a subimage of ones in the upper left of a 128x128 image of zeros:
filterkernel=zeros(128);
filterkernel(1:width,1:width)=1;
(width is an integer of course)
Then I took the DFT of this filter kernel and multiplied it with the DFT of the Colby image. The inverse DFT is your image "ugly."

Download "ugly.mat" from the toolkit. Load into Matlab using "load ugly".