Homework 6

Due: Tuesday 11/19/2019.

Reading assignment: Chapters 15, 16, 17 in the textbook.

Homework problems

1. Exercise A9.4.
   Julia users will need the packages FFTW, ImageView, and MAT. The code
   
   ```
   using MAT, ImageView
   f = matopen("deblur.mat");
   Y = read(f, "Y");
   B = read(f, "B");
   imshow(Y)
   ```

   imports the matrices $Y$, $B$ and displays the blurred image $Y$. The 2-dimensional DFT and inverse DFT are computed using the functions `fft` and `ifft` in the FFTW package, \textit{i.e.}, the same functions as for the 1-dimensional DFT and inverse DFT (see homework 4). When applied to a matrix, `fft` and `ifft` compute the 2-dimensional DFT and inverse DFT.

2. Exercise A10.2. See the remark at the end of exercise A10.1 on how to compute least norm solutions of linear equations in MATLAB. In Octave or Julia, the least norm solution of $C x = d$ can be computed as $x = C \backslash d$.


4. Exercise A10.15.