

## 18.06 Problem Set 9

Due Thursday, 18 November 2010 at 4pm in the undergrad math office. Please note that the problems from the textbook are out of the 4th edition: make sure to check that you are doing the correct problems. For MATLAB problems, please include a printout of your code with your problem set. You can type `diary('filename')` at the beginning of your session to save a transcript, and `diary off` when you are done.

Each Problem worth 10 points.

1. Do problem 12 from section 6.6.
2. Do problem 13 from section 6.6.
3. Do problem 1 from section 6.7.
4. Do problem 2 from section 6.7.
5. Do problem 3 from section 6.7.
6. Do problem 6 from section 6.7.
7. Do problem 7 from section 6.7.
8. Do problem 8 from section 6.7.
9. Do problem 1 from section 8.1.
10. Take an  $n \times n$  jordan block `MATLAB:diag(ones(n-1,1),1)` and put a small number on the bottom left corner  
what do you see if you plot the eigenvalues  
say something about the difficulty of computing numerically eigenvalues of matrices with multiple eigenvalues