Temple 3043 Numerical Analysis I Fall 2011

Problem Set 10

(Out Mon 11/07/2011, Due Tue 11/15/2011)

Instructions

Any problem given by a number (and page reference) is taken from the book
Brian Bradie, *A Friendly Introduction to Numerical Analysis*, Pearson Prentice Hall, 2006.

- Problems marked with **(T)** are theory problems. Their solutions are to be submitted on paper.
- Problems marked with **(P)** are practical problems, and require the use of the computer. Their solutions are to be submitted on paper, and usually require two parts: (a) a description of the underlying theory; and (b) code segments, printouts of program outputs, plots, and whatever it required to convince the grader that you have understood the theory and addressed all practical challenges appropriately.

Section 4.4 (pages 318–321)

(T) 1.

Section 4.5 (pages 333–336)

(T) 1.
(P) 13.
(P) 18.

For 13. and 18., program the QR algorithm. Do not worry too much about efficiency. You are allowed to use Matlab's QR-factorization. Report the convergence rate for each eigenvalue.

Section 5.1 (pages 349–352)

(T)&(P) 2.
(T)&(P) 13.