

## Problem Set 1

(Out Tue 09/06/2011, Due Tue 09/13/2011)

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**Instructions**

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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.

Generally, naked numbers are not acceptable. Solutions must include a short write-up describing the problem, your solution technique, and procedural details. To include a computer printout use the cut and paste method for placement of materials in your work. All things must be clearly labeled.

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**Section 1.1** (pages 16–19)

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**(P)** 3.      **(P)** 4.      **(T)** 6.      **(P)** 8.      **(T)** 14.

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**Section 1.2** (pages 27–30)

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**(T)&(P)** 3.      **(T)** 6.      **(T)** 12.

**(P)** Implement the method in 12. and numerically confirm the theoretical results.

**(T)** 16.