ASSIGNMENT 1

Due February 10, 2004 (before start of class)

Please note that our textbook has three categories of problems at the end of each chapter. They are the "Review Questions", the "Exercises", and the "Computer Problems". Make sure that you do not get them mixed up and end up doing the wrong problem.

Problem 1

Do Exercise 1.9 on p.43 of the textbook.

Part (f) *must* be done by writing a MATLAB script program. Since MATLAB handles all numbers in the IEEE double-precision format you will not be able to experiment on the single-precision version of the problem. Make sure that the first statement of the program is either `clear` or `clear all` so that your results cannot be contaminated by some previous values. You *need* to submit a hardcopy of the program as well as appropriate and relevant output.

There are many ways to capture output results in MATLAB. For 1 or even 2 pages of output one can simply copy from the screen and paste the results in a text file. One can also save the contents of variables in a *text file* using the "save" function. You can find out how that works by typing "help save" on the command line.

For example if a and b are two row vectors, they can be stored in a file called "outfile.txt" by the following command line:

```
save outfile.txt a b -ascii -double
```

The option `ascii` specifies that the data are stored in text format, and the option `double` causes the data to be written with 16 digits of precision. The contents of a will be stored first follow by those of b.

We have the following rules and guidelines for all your assignments:

1. Submit a hardcopy of your program as well as any appropriate outputs and results.

2. Don't just show the results. Always attempt to make intelligent comments about them.

3. Make sure you do your problem by yourself. No collaborations with others are allowed.

4. Of course you are always welcome to discuss the problem with me whenever you can contact me (physically, by email or phone).