

**Numerical Computing F25**  
**HW 1**  
**Due Sept 15**

1. Exercise 1.3(b),(e)
2. Exercise 1.9
3. (MATLAB) Exercise 1.14
4. (MATLAB) Exercise 1.16(a)
5. Exercise 1.19
6. (MATLAB) a) You are to enter the MATLAB command

`rand(n,n);`

What is the largest value of  $n$  where MATLAB does not state there is an error (using alarmingly red letters) or hangs for more than 60 seconds? Note that it is only necessary to determine  $n/1000$  to one significant digit. So, if it works for  $n = 1000$ , but not for  $n = 2000$ , it is not necessary to consider  $n = 1600$ , etc).

b) How many cores does your processor have?

MATLAB part of the assignment (what to turn in):

Problem 3. Enter the commands directly into the Command Window, and then turn in the printed output from the Command Window, or else use a m-file (in which case a copy of the m-file as well as the printed output should be turned in).

Problem 4. the commands should be in a m-file; you should turn in a copy of the m-file as well as the printed output.

Problem 6. You can just write your values on paper (no MATLAB output is required).

Important: in all cases, when printed output is requested, make sure the answers are labeled. The preferred method is to use a comment line in the command window or print commands in the m-file (see the MATLAB examples from the first day of class). Failure to do this will result in a reduction in your HW grade for that problem.

MATLAB's publish command: very useful and highly recommended when output from a m-file is required.