Due: Thursday January 20th, 2005

Problems to be turned in 2(b), 4, 5

- 1. Evaluate the following by hand and check your results in MATLAB
 - (a) 5|4
 - (b) ~3
 - (c) Given x = [0 5 3 7] and y = [0 2 8 7], u = x((x, y) & (x, 4)).
 - (d) A = reshape(1:8,2,4); B = A (5*ones(2,2))
- 2. newsqrt
 - (a) Write a newsqrt function to compute the square root of a positive number, using Newton's Algorithm, one discussed in class using while.. end. An upper limit on the number of iterations and an acceptable error value should be include in the input arguments. Allow for default values if the user decided not to give any or one of the input parameters. (Do not use any input prompt command.)
 - (b) Write a newsqrt function to compute the square root of a positive number, using Newton's Algorithm, one discussed in class but this time using for.. end.
- 3. Write the MATLAB statements that use a loop and the **fprintf** function to produce the following table(the format of the numerical values should agree exactly with those printed in the table):

theta	<pre>sin(theta)</pre>	cos(theta)
0	0.0000	1.0000
60	0.8660	0.5000
120	0.8660	-0.5000
180	-0.0000	-1.0000

- 4. myage
 - (a) Write down a function myage, that returns your age in years.
 - (b) Extend the above myage function with an optional input argument, onDate, can be provided for testing. This modified myage function should return your age in years on onDate, where onDate is a MATLAB date number. (see help datenum). Your program should correctly compute your age on the following test dates:
 - i. When you first encountered Siva: January, 3 2005.
 - ii. One day before your first birthday.
 - iii. On the day the assignment is due: January, 20, 2005.

Hint: you may use built-in datevec function

(c) Extend the myage function developed so far in the preceding problem to provide an optional return of the months and days since you were born. For example: Suppose you were born on April, 1, 1904. The function should yield the following values: >> y = myage(datenum(2004,7,11))

5. Spot the bug in the function bugbreak(n) below and fix it without dismantling the break command:

6. Write down a function polyd that evaluates the first derivative of a polynomial of arbitrary degree at a given point x. Use the Horner's rule (i.e. the method discussed in class) and for ..end. The function should take in the vector c of coefficients and x a real number where the derivative should be evaluated.