Mathematics 420 Scientific Computing
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**Reading Assignment**: Chapter 2 (2.1–2.6) of Moler on solving linear equations. Keep reading & *rereading* the “UNIX Tutorial for Beginners” (Intro–Tutorial 6) & the “C Programming Notes” (Chapters 1–12 & 14–18).

**Homework 8**
Due: Fri Apr 2

(1) Explain in a short paragraph what the following block of code from solve.c does (ABS(x) = absolute value of x):

```c
    // back substitution
    // At this point, A x = b has been transformed to U x = c
    // A <-- U, b <-- c
    // At the end, x will be stored in b
    // loop over rows in reverse order
    for (i = N-1; i >= 0; i--) {
        sum = 0.;
        for (j = i+1; j < N; j++)
            sum += A[i][j]*b[j];
        sum = b[i] - sum;
        if (ABS(A[i][i]) > EPSILON) b[i] = sum/A[i][i];
        else if (ABS(sum) < EPSILON) {
            b[i] = 0.;
            printf("WARNING: sum may be too small in solve()\n");
        } else {
            printf("ERROR in solve()\n");
            exit(ERROR);
        }
    }
```