

Assignment 2  
Due on April 2

1. (10%) If  $L$  is a nonsingular lower triangular matrix,  $P$  is a permutation matrix, and  $b$  is a given vector, how would you solve each of the following linear system
  - (a)  $LPx = b$
  - (b)  $PLx = b$
2. (20%) Chapter 2: Exercise 17.
3. (20%) Chapter 2: Exercise 38
4. (20%) Chapter 2: Exercise 61
5. (25%) Chapter 2: Exercise 83
6. (25%) (Bonus) Derive an algorithm and write an MATLAB program to compute the Cholesky factorization of an  $N \times N$  matrix. (upload your code to the course web)