Ralph's Decomposition

This is a continuation of Ralph's structure.

Required:

1. Use Gaussian elimination to find a solution to $Ay = x$. How does the solution compare to the solution based on a spanning tree?

2. Find lower and upper triangular matrices L and U such that $LU = A$. How does LU decomposition compare to Gaussian elimination?
Hint: you may find it convenient to utilize row exchanges.