## Homework Assignment 5 Due on Friday 11/8

## Programming Problems:

1. Modify your GE code to get a code that gives the LU decomposition of A by Gaussian elimination with scaled partial pivoting. You code should take A as input and give L, U, r as outputs. Please verify $L^{*} \mathrm{U}=\mathrm{A}(\mathrm{r},:$ ) in Matlab by yourself.
2. Modify your code in 1 to be able to compute the determinate of a matrix A.
3. Write a code to perform Crout depcomposition.

## Writing Problems:

Do the following exercise problems in the text book by Bradie,
Sec 3.5: $1^{*}, 2,3,7^{*}, 9^{*}, 10,12^{*}$
Sec 3.6: $3^{*}, 8^{*}$, 11*
Sec 3.7: 1, 2, 4, $5^{*}, 6(\mathrm{~b})^{*}, 7,8,9,10(\mathrm{a})^{*}, 11^{*}$
Just turn in the problems with *.
Bonus Problems: Sec 3.7: 19.

