

Quiz #1 (CSE 4190.313)

Monday, March 17, 2014

Name: _____ ID No: _____

1. (5 points) Suppose A is invertible and you exchange its i -th and j -th **columns** to reach B . Is the new matrix B invertible? Why? How would you find B^{-1} from A^{-1} ?

2. (5 points) True or false (with a counterexample if false and a reason if true):
 - (a) (3 points) A square matrix A with a column of zeros is not invertible.
 - (b) (2 points) If A^T is invertible then A is invertible.

3. (10 points) If an invertible matrix $A = L_1 D_1 U_1 = L_2 D_2 U_2$, show that the factorization is unique: $L_1 = L_2$, $D_1 = D_2$, and $U_1 = U_2$.