Matlab project 1

1. Create a $5 \times 5$ matrix, call it $A$. Make sure it is not trivial (it should be significantly different from a diagonal matrix). Find its determinant $\det(A)$. Make sure $\det(A)$ is significantly different from zero. Otherwise, try a different matrix.

2. Find the inverse of $A$, call it $B$, and verify $AB = BA = I$.

3. Create a $6 \times 4$ matrix $C$, find its transpose $D = C^T$ and form the matrix product $E = CD$.

4. Find the reduced row echelon form of matrix $E$ using the matlab function rref.

Submit the record of your matlab session, which should contain both matlab codes and output. Make sure there is no error in your submitted project. If you make a mistake, you should re-start from beginning and submit only the part of matlab run that contains no error. You will not receive full credit if there is an error in your submission even if you correct it later in the session.

Matlab note: In matlab, the command for the inverse matrix $A^{-1}$ is inv($A$), the command for matrix transpose $A^T$ is $A'$, and use * denote the product between numbers or matrices. The number 0 in matlab may be represented by a very small number, such as $2e-10$ meaning 0.000000002.