



LINEAR ALGEBRA
SPRING 2024

ASSIGNMENT 2.1
DUE JANUARY 24

Row reduce the matrices in Exercises 1 and 2 to reduced row echelon form (RREF). Circle the pivot positions in the final matrix and the original matrix, and list the pivot columns of the original matrix.

Exercise 1.

$$\begin{pmatrix} 1 & 2 & 3 & 4 \\ 4 & 5 & 6 & 7 \\ 6 & 7 & 8 & 9 \end{pmatrix}$$

Exercise 2.

$$\begin{pmatrix} 1 & 3 & 5 & 7 \\ 3 & 5 & 7 & 9 \\ 5 & 7 & 9 & 1 \end{pmatrix}$$

Exercise 3. Write out the linear system whose augmented matrix is

$$\left(\begin{array}{cccc|c} 1 & -7 & 0 & 6 & 5 \\ 0 & 0 & 1 & -2 & -3 \\ -1 & 7 & -4 & 2 & 7 \end{array} \right).$$

Then row reduce the augmented matrix to reduced row echelon form (RREF), and use this to find the general solution of the system.