Question —— assigned:

1. Explain Gaussian Elimination (principle, rules, etc.). Illustrate it on the matrix $\begin{pmatrix} 1 & 2 & 3 \\ 2 & 5 & 7 \\ 3 & 8 & 10 \end{pmatrix}$

2. Determine if the system

$$\begin{array}{rrrcr} x_1 & +2x_2 & +3x_3 = & 2 \\ 2x_1 & & -3x_3 = & 1 \\ 3x_1 & -x_2 & = & -3 \end{array}$$

   has a unique solution or not. Do not compute the solution.

3. For each case, give an example of a 3x3 matrix that is

   (a) Symmetric

   (b) Lower triangular

   (c) Diagonal