Problem 1:

In this problem, you have to write down the program for Cremer's Rule.

Input:
The systems of linear Equations will be given in a text file. The unknown variables may be like in the format (either uppercase or lowercase of [a,b,c… or x1, x2,x3,....], if uppercase letters, it won't contain any digit following the capital letter, otherwise digits will be followed by small letters), coefficients are real number or integer, so as constants. The format of the input in text file will be like this:

$$x_1 + x_2 - x_3 = -3$$
$$6x_1 + 2x_2 + 2x_3 = 2$$
$$-3x_1 + 4x_2 + x_3 = 1$$

Or,

A + 3B + C + 3D = 14
4A - 2B - 3C + D = 20
2A + B - C - D = 9
A + 2B - C - 2D = 3

Output:
You will generate output in a separate text file, with the unknowns and their corresponding values.

Problem 2:
You have to write down the program for the solution of system of linear equations using matrix inversion method. Matrix inversion method will be through the first approach (using elementary row operations) taught in the theory class.

Input:
The systems of linear Equations will be given in a text file. The unknown variables may be like in the format (rules are same as previous problem, with one additional rules,the order of the variables are might be varying), coefficients are real number or integer, so as constants. The format of the input in text file will be like this:

$$x_1 + x_2 - x_3 = -3$$
$$6x_1 + 2x_2 + 2x_3 = 2$$
$$-3x_1 + 4x_2 + x_3 = 1$$

Or,

A + 3B + C + 3D = 14
4A - 2B - 3C + D = 20
2A + B - C - D = 9
A + 2B - C - 2D = 3

Output:
You will generate output in a separate text file, with the unknowns and their corresponding values.

Submission:

Deadline: 30th September, 2018 11:59 PM

No Lab Report is needed in this assignment.