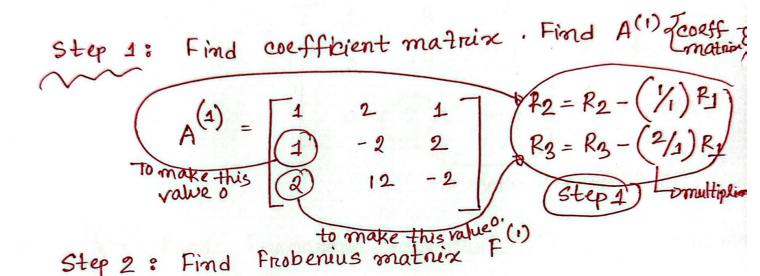
Example 1:

column

$$x_1 + 2x_2 + x_3 = 0$$
 $x_1 - 2x_2 + 2x_3 = 4$
 $2x_1 + 12x_2 - 2x_3 = 4$



Negative values of rmultiplieres

We get this

By making

O in the first

of 1 values should be 1. In step 1, we are not getting any multiplierce for this . So for the time being we are considering this value as 0.

o diagonally the

find A^Q

being we are considering

this value as O.

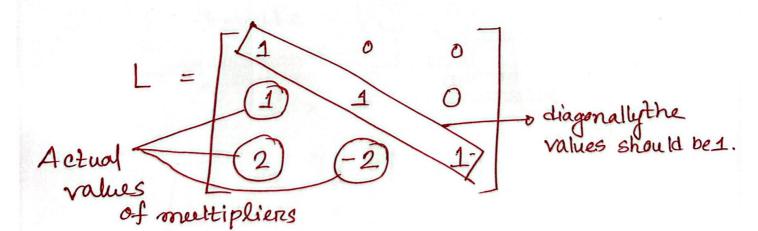
Scanned with CS CamScanner Step 5: Find the upper triangelan matrin. [v]

$$[U] = A^{(3)} = \begin{bmatrix} F^{(2)} \times A^{(2)} \end{bmatrix} - \text{to maintaining this}$$

$$\text{Sequence is rary important}$$

$$= \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 2 & 1 \end{bmatrix} \times \begin{bmatrix} 4 & 2 & 1 \\ 0 & -4 & 1 \\ 0 & 8 & -4 \end{bmatrix}$$

Create lower triangular matrix Step 6:



$$\begin{bmatrix} 1 & 0 & 0 \\ 1 & 1 & 0 \\ 2 & -2 & 1 \end{bmatrix} \begin{bmatrix} a_1 \\ a_2 \\ a_3 \end{bmatrix} = \begin{bmatrix} 0 \\ 4 \\ 4 \end{bmatrix}$$

$$\frac{|a_{4}| = 0}{|a_{2}| = 4}$$

$$2a_1 - 2a_2 + a_3 = 4$$

$$a_3 = 4 + 2x4 = 12$$

Step 8: Compute
$$100 = 0$$

upper triangular $100 = 0$

unknown from step 7

 $100 = 0$

variables

$$\begin{bmatrix} 1 & 2 & 1 \\ 0 & -4 & 1 \\ 0 & 0 & -2 \end{bmatrix} \begin{bmatrix} 94 \\ 0 \\ 23 \end{bmatrix} = \begin{bmatrix} 0 \\ 4 \\ 12 \end{bmatrix}$$

$$\frac{-4x_2 + 2x_3 = 4}{24 + 2x_2 + 2x_3 = 12} \Rightarrow 2x_3 = 11$$

Advantage: if the values of b everc Changes we don't have to do the task from the beginning.