

GAUSS ELIMINATION METHOD WITH PARTIAL PIVOTING

①

$$x_1 + x_2 + x_3 = 3$$

$$4x_1 + 3x_2 + 4x_3 = 8$$

$$9x_1 + 3x_2 + 4x_3 = 7$$

$$[A|b] = \left[\begin{array}{ccc|c} 1 & 1 & 1 & 3 \\ 4 & 3 & 4 & 8 \\ 9 & 3 & 4 & 7 \end{array} \right]$$

$$R_3 \leftrightarrow R_1$$

is mein sb se bary num ko
sb se upper rakna h

$$\left[\begin{array}{ccc|c} 9 & 3 & 4 & 7 \\ 4 & 3 & 4 & 8 \\ 1 & 1 & 1 & 3 \end{array} \right]$$

$$R_2 \rightarrow R_2 - 4R_3, \quad R_3 \rightarrow R_1 - 9R_3$$

$$\left[\begin{array}{ccc|c} 9 & 3 & 4 & 7 \\ 0 & -1 & 0 & -4 \\ 0 & -6 & -5 & -20 \end{array} \right]$$

is mein sb se bary num
ko sb se upper rakna h

$$R_3 \rightarrow -6R_2 + R_3$$

$$\left[\begin{array}{ccc|c} 9 & 3 & 4 & 7 \\ 0 & -1 & 0 & -4 \\ 0 & 0 & -5 & 4 \end{array} \right]$$

②

$$\begin{aligned} 9x_1 + 3x_2 + 4x_3 &= 7 \\ -x_2 &= -4 \\ -5x_3 &= 4 \end{aligned}$$

on solving these equations
we get

$$x_3 = -4/5$$

$$x_2 = 4$$

$$x_1 = -\frac{1}{5}$$

— X — X —