NOTE: WE DO THIS IN PRACTICE BY STARTING WITH THE MATRIX A, AUGMENTED BY I

FOR EXAMPLE, IF $A = \begin{bmatrix} 2 & 1 \\ 3 & 6 \end{bmatrix}$, WE START WITH

$$\left[\begin{array}{cc:cc} 2 & 1 & 1 & 0 \\ 3 & 6 & 0 & 1 \end{array}\right]$$

THEN WE DO ELEMENTARY ROW OPERATIONS UNTIL THE LEFT HAND SIDE IS I. THE RIGHT HAND SIDE IS THEN A^{-1}!

REMARK: IF A ROW OF ZEROS IS OBTAINED ON THE LEFT HAND SIDE, WE CAN STOP, A IS <u>NOT</u> INVERTIBLE.