Step-1

We have

$$A=\begin{bmatrix} x & x & x \\ 0 & 0 & x \\ 0 & 0 & x \end{bmatrix}$$

$$A=\begin{bmatrix} a & b & c \\ 0 & 0 & d \\ 0 & 0 & e \end{bmatrix}$$ Where a,b,c,d,e are non â€“zero values marked in the place of x

Step-2

Then using row operation of $\text{row 3 } -\left(\text{Row 2 multiplied by ed}^{-1}\right)$ on A

We get a zero row so that

$$\det A=\begin{vmatrix} a & b & c \\ 0 & 0 & d \\ 0 & 0 & 0 \end{vmatrix}$$

$=\boxed{0}$ Since it contains a zero row

And clearly rank of $A=\boxed{2}$