$$A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}.$$

Column space $(1,4)\cdot(2,5)\ (3,6)$ in R_2.

Row space $(1,2,3)\ (4,5,6)$.

null(A) $\rightarrow AX=0$ ($A(\lambda x)=0$)

e.g. 0 is null A

If vector x, y are null(A).

$A(x+y)=Ax+Ay=0$.

Find the independent vector v_3/ there's no such v_3

If v_3 exists. =>