③ → So, span(s) $\to \{v_1, v_2, v_3, v_4\}$. with scaler
⇒ c_1, c_2, c_3, c_4 will be →

span(s) ⇒
$$c_1 \cdot \vec{v_1} + c_2 \cdot \vec{v_2} + c_3 \cdot \vec{v_3} + c_4 \cdot \vec{v_4}$$
can also be written as :

if we arrange all vect. as column vector format. →
$$\begin{bmatrix} \vec{v_1} & \vec{v_2} & \vec{v_3} & \vec{v_4} \end{bmatrix}_{3\times4} \cdot \begin{bmatrix} c_1 \\ c_2 \\ c_3 \\ c_4 \end{bmatrix}_{4\times1}$$

⇓

Since, we are given 3 elements of span(s) →
There exists ~~for~~ ~~certain~~ set of scaler, for which →

$$\begin{bmatrix} \vec{v_1} & \vec{v_2} & \vec{v_3} & \vec{v_4} \end{bmatrix}_{3\times4} \cdot \begin{bmatrix} c_1 & c_5 & c_9 \\ c_2 & c_6 & c_{10} \\ c_3 & c_7 & c_{11} \\ c_4 & c_8 & c_{12} \end{bmatrix}_{4\times3} = \underbrace{\begin{bmatrix} 1 & 1 & 1 \\ 0 & 1 & 1 \\ 0 & 0 & 1 \end{bmatrix}_{3\times3}}_{\text{given}}$$

we can easily convert this into identity matrix that means for all values in $\mathbb{R}^3$, it'll be true.

⇒ Thus span(s) = $\mathbb{R}^3$

JUNE 2020

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				