Sunday, 7 December 2025 4:30 PM

$$W = \begin{bmatrix} 1 & 2 & 3 \\ 2 & 4 & 6 \\ 3 & 6 & 9 \end{bmatrix}$$

3.1: Only one independent column (C_1).
∴ Only **one** independent direction of information.

3.2: **Rank(W) = 1** [1 linearly independent row/column]

3.3: $A = C \cdot R$ ↳ $A \rightarrow m \times n$, rank $\rightarrow r$

$C \rightarrow m \times r \rightarrow 3 \times 1$
$R \rightarrow r \times n \rightarrow 1 \times 3$
∴

Here, $m = n = 3$
$r = 1$