



Key Takeaways



Properties of adjoint matrix

- Let $A = [a_{ij}]_n$ be a square matrix.

$$\text{adj}(A^T) = (\text{adj } A)^T$$

Proof:

$$\text{L.H.S} = \text{adj}(A^T) = (C^T)^T = C$$

$$\text{R.H.S} = (\text{adj } A)^T = ((C)^T)^T = C$$

$$\text{adj}(A^T) = (\text{adj } A)^T$$

eg

$$\begin{vmatrix} a & b \\ x & y \end{vmatrix} = \begin{vmatrix} x & y \\ a & b \end{vmatrix}$$

$$A \rightarrow C$$

$$A^T \rightarrow C^T$$

eg. co factor of element b doesn't change even after taking the transpose of the given matrix. therefore if we will write the cofactor matrix of original matrix and of the transpose of the matrix, they are just the transpose of each other