

Determinants

- A determinant is a scalar value that is a function(real or complex valued) of entries of a square matrix .

Let a matrix be : $A = [a_{ij}]_n$, then its determinant is denoted as $\det(A) = |A|$

If $A = [a]_{1 \times 1}$, $|A| = a$

If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$, $|A| = \begin{vmatrix} a & b \\ c & d \end{vmatrix} = ad - bc$

Example: $A = \begin{bmatrix} 5 & -1 \\ 4 & 3 \end{bmatrix}$, its determinant is

$$|A| = 15 - (-4) = 19$$