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Topic → MATRICES.

Matrix is a very useful tool in mathematical economics.

It provides an arrangement to write the system of equations.

Also it provides the method for finding the value of determinant.

Definition of Matrix →

A set of mn numbers (real or imaginary) arranged in the form of a rectangular array of m rows and n columns is called an $m \times n$ matrix (to be read as 'm' by 'n' matrix)

An

$m \times n$ matrix is usually written as

$$A_{m \times n} = \begin{bmatrix} a_{11} & a_{12} & \cdots & a_{1j} & \cdots & a_{1n} \\ a_{21} & a_{22} & \cdots & a_{2j} & \cdots & a_{2n} \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ a_{i1} & a_{i2} & \cdots & a_{ij} & \cdots & a_{in} \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ a_{m1} & a_{m2} & \cdots & a_{mj} & \cdots & a_{mn} \end{bmatrix}$$

The numbers a_{ij} ($i = 1$ to m, $j = 1$ to n) are called the elements of a matrix.

For element is represented as :-

a_{ij} → The first subscript (i) always denotes the number of rows, and (j) number of columns.

In general form the above matrix is represented as;

$$A = [a_{ij}]_{m \times n} \quad \text{or,}$$

$$A = [a_{ij}]$$