


$$\begin{bmatrix} x & y \\ c & z \end{bmatrix}$$



LINEAR ALGEBRA



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Assalamualikum. This is
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lets learn together

INTRODUCTION TO MATRICES



In mathematics, a matrix is also known as matrices.

It is a rectangular array of numbers, figures, or expressions, organized in rows and columns. Matrices

are usually written in box brackets. In matrices, the

horizontal and vertical lines of entries are rows and columns.

$$\begin{bmatrix} x & y \\ c & z \end{bmatrix}$$



INTRODUCTION TO MATRICES

$$\begin{bmatrix} 5 & 1 & 2 \\ 3 & 0 & -5 \end{bmatrix} = \begin{array}{c} \text{A} \\ \text{variable} \end{array}$$

A

R × C

$$\begin{bmatrix} 5 & 1 & 2 \\ 3 & 0 & -5 \end{bmatrix} = \begin{array}{c} \text{A} \\ \text{variable} \end{array}$$

A

2 × 3

R = Row

C = Column

A variable

Position of Metrics

$$\begin{bmatrix} 5 & 1 & 2 \\ 3 & 0 & -5 \end{bmatrix}$$



=

$$A[2,2] = 0$$

$$a_{2,2} = 0$$

$$a_{1,3} = 2$$

Adding Metrics

$$\begin{bmatrix} 3 & -1 \\ 2 & 0 \end{bmatrix} = A$$

$$\begin{bmatrix} -7 & 2 \\ 3 & 5 \end{bmatrix} = B$$

$$A+B = \begin{bmatrix} (3+(-7)) & (-1+2) \\ (2+3) & (0+5) \end{bmatrix}$$

$$A+B = \begin{bmatrix} -4 & 1 \\ 5 & 5 \end{bmatrix}$$

Subtracting Metrics



$$A - B = A + -1 \times B$$

$$A - B = \begin{bmatrix} 3 & -1 \\ 2 & 0 \end{bmatrix} + -1 \begin{bmatrix} -7 & 2 \\ 3 & 5 \end{bmatrix}$$

$$A - B = \begin{bmatrix} 3 & -1 \\ 2 & 0 \end{bmatrix} + -1 \begin{bmatrix} -7 & 2 \\ 3 & 5 \end{bmatrix}$$

$$A - B = \begin{bmatrix} 3 & -1 \\ 2 & 0 \end{bmatrix} + \begin{bmatrix} 7 & -2 \\ -3 & -5 \end{bmatrix}$$

$$A - B = \begin{bmatrix} (3+7) & (-1+-2) \\ (2+-3) & (0+-5) \end{bmatrix}$$

$$A - B = \begin{bmatrix} 10 & -3 \\ -1 & -5 \end{bmatrix}$$

NOTE

Note: In Addition and substraction

matrics dimention has to be same . [3,2]

row multiplier matrics and column multiplier

matrics cant add or substract due to the
dimention



LET'S LEARN
2GETHER



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