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Multiplying Matrices

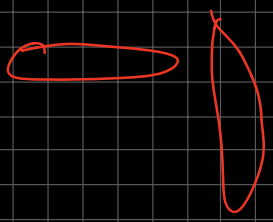
Conditions

- Number of columns equal number of rows

Rules

- Given matrix A and matrix B, multiply each row from matrix A to the columns of matrix B
- Get the sum of the products

Example



$$A = \begin{bmatrix} a & b \\ c & d \\ e & f \end{bmatrix} \quad B = \begin{bmatrix} h & I \\ J & K \end{bmatrix} \quad AB = \begin{bmatrix} u & v \\ w & x \\ y & z \end{bmatrix}$$

$3 \times 2 \qquad 2 \times 2 \qquad 3 \times 2$

$u = (ah + bJ) \quad v = (aI + bK) \quad y = (eh + fJ)$

$w = (ch + dJ) \quad x = (cI + dK) \quad z = (eI + fK)$

The goal is to take each row of A and append it to a temporary array and take each row of B and append it to another temporary array. Multiply each element of the array and return the sum of products.

$$A = \begin{bmatrix} a & b \\ c & d \\ e & f \end{bmatrix} \quad B = \begin{bmatrix} h & I \\ J & K \end{bmatrix} \quad AB = \begin{bmatrix} u & v \\ w & x \\ y & z \end{bmatrix}$$

$3 \times 2 \qquad 2 \times 2 \qquad 3 \times 2$

$tempA = [a, b] \qquad tempB = [h, J]$

$Sum = 0$

$Sum = Sum + (tempA[i] \times tempB[i])$

append Sum to final result.

Our results array MatrixAB will have 3 rows 2 columns.

I need to append the sum for each rows where I will end up with an $m \times n$ matrix or 2D Array.