

DSTQQSS

MULTIPLICAÇÃO DE MATRIZES

TAREFA BÁSICA

$$\textcircled{1} \quad A = \begin{Bmatrix} 3 & -1 \\ 0 & 2 \end{Bmatrix}$$

$$\begin{Bmatrix} -1 & 2 & 0 \\ -1 & -3 & 4 \end{Bmatrix}$$

$$B = \begin{Bmatrix} -1 & 2 & 0 \\ 1 & -3 & 4 \end{Bmatrix}$$

$$\begin{Bmatrix} 3 & -1 \\ 0 & 2 \end{Bmatrix} \quad AB = \begin{Bmatrix} -3 & 1 & 6+3 & 0+4 \\ 0+2 & 0-6 & 0+8 \end{Bmatrix}$$

A MATRIZ BA NÃO SE EXISTE POSS

$$AB = \begin{Bmatrix} -4 & 9 & 4 \\ 2 & 6 & 8 \end{Bmatrix}$$

$$\textcircled{2} \quad A = \begin{Bmatrix} 5 & 2 & -1 \\ 7 & 4 & 3 \end{Bmatrix}$$

$$B = \begin{Bmatrix} 3 & -2 \\ 1 & -3 \\ -4 & 0 \end{Bmatrix}$$

$$B = \begin{Bmatrix} 3 & -2 \\ 1 & -3 \\ -4 & 0 \end{Bmatrix}$$

$$\begin{Bmatrix} 5 & 2 & -1 \\ 7 & 4 & 3 \end{Bmatrix}$$

$$AB = \begin{Bmatrix} 15+2+4 & -10-6-0 \\ 21+4-12 & -14-12+0 \end{Bmatrix}$$

TARJETA BASICA

$$\textcircled{1} \quad A = \begin{Bmatrix} 3 & -12 \\ 0 & 2 \end{Bmatrix}$$

$$\begin{Bmatrix} -7 & 2 & 0 \\ 1 & -3 & 4 \end{Bmatrix}$$

$$B = \begin{Bmatrix} -7 & 2 & 0 \\ 1 & -3 & 4 \end{Bmatrix}$$

$$\begin{Bmatrix} 3 & -12 \\ 0 & 2 \end{Bmatrix} \quad AB = \begin{Bmatrix} -3 & 1 & 6 & 3 & 0 & 4 \\ 0 & 12 & 0 & 6 & 0 & 8 \end{Bmatrix}$$

A MATRIZ BA NÃO EXISTE PONTO

$$AB = \begin{Bmatrix} -4 & 9 & 4 \\ 2 & -6 & 8 \end{Bmatrix}$$

$$\textcircled{2} \quad A = \begin{Bmatrix} 5 & 2 & -1 \\ 7 & 4 & 3 \end{Bmatrix}$$

$$B = \begin{Bmatrix} 3 & -2 \\ 1 & -3 \\ -4 & 0 \end{Bmatrix}$$

$$B = \begin{Bmatrix} 3 & -2 \\ 1 & -3 \\ -4 & 0 \end{Bmatrix}$$

$$\begin{Bmatrix} 5 & 2 & -1 \\ 7 & 4 & 3 \end{Bmatrix}$$

$$AB = \begin{Bmatrix} 15 & 6 & 2 & 4 & -10 & -6 & 0 \\ 27 & 14 & -12 & -14 & -12 & 0 \end{Bmatrix}$$

$$\begin{Bmatrix} 5 & 2 & -1 \\ 7 & 4 & 3 \end{Bmatrix}$$

$$\begin{Bmatrix} 3 & -2 \\ 1 & -3 \\ -4 & 0 \end{Bmatrix} \quad B A = \begin{Bmatrix} 15 & 74 & 6 & 8 & -3 & 6 \\ 5 & -21 & 2 & -12 & 7 & -9 \\ -20 & 0 & -8 & 0 & 4 & 0 \end{Bmatrix}$$

$$AB = \begin{Bmatrix} 21 & -1 \\ 13 & 26 \end{Bmatrix}$$

$$BA = \begin{Bmatrix} 9 & -2 & -9 \\ -16 & -10 & -10 \\ -20 & -8 & 4 \end{Bmatrix}$$



MÁXIMA
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$$③ A = \begin{pmatrix} 5 & -1 & 0 \\ 2 & 1 & 2 \end{pmatrix}$$

$$\begin{pmatrix} -1 & 1 \\ 0 & 2 \end{pmatrix}$$

$$A^T = \begin{pmatrix} 5 & -1 & 1 \\ 0 & 2 & 3 \end{pmatrix} \quad \begin{pmatrix} 5 & -1 & 0 \\ 1 & 2 & 3 \end{pmatrix} \quad AA' = \begin{pmatrix} 1 & 0 & -1 & 0 \\ -1 & 0 & 1 & 1 \\ 0 & 1 & 1 & 4 \end{pmatrix}$$

$$AA^T = \begin{pmatrix} 1 & -1 \\ -1 & 5 \end{pmatrix}$$

$$B = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$$

$$AB = \begin{pmatrix} 1 & 4 & 1 & 3 & 2 \\ 2 & 3 & 8 & 1 & 1 & 8 \end{pmatrix}$$

Ans: 5 20 10 29

$$\textcircled{3} \quad A = \begin{Bmatrix} -5 & -1 & 0 \\ 2 & 1 & 2 \\ 5 & 1 & 2 \end{Bmatrix}$$

$$A^T = \begin{Bmatrix} -5 & 1 & 1 \\ 2 & 0 & 2 \\ 5 & 1 & 2 \end{Bmatrix}$$

$$\begin{array}{l} \left\{ \begin{array}{l} -1 \\ 1 \end{array} \right\} \\ \left\{ \begin{array}{l} 0 \\ 2 \end{array} \right\} \\ \left\{ \begin{array}{l} -1 \\ 0 \end{array} \right\} \\ \left\{ \begin{array}{l} 1 \\ 2 \end{array} \right\} \end{array} \quad AA' = \begin{Bmatrix} 1 & 0 & -1 & 0 \\ -1 & 0 & 1 & 1 \\ 0 & 1 & 1 & 1 \end{Bmatrix}$$

$$AA' = \begin{Bmatrix} 1 & -1 \\ -1 & 5 \end{Bmatrix}$$

\textcircled{4}

$$B = \begin{Bmatrix} 1 & 0 \\ 2 & 3 \end{Bmatrix} \quad AB = \begin{Bmatrix} 1 & 4 & 7 & 5 \\ 3 & 9 & 16 & 18 \end{Bmatrix}$$

$$A = \begin{Bmatrix} 1 & 2 & 5 & 2 \\ 3 & 4 & 6 & 3 \end{Bmatrix}$$

$$AB = \begin{Bmatrix} 20 \\ 29 \end{Bmatrix} \quad C_{11} = 29$$

ALTERNATIVA A

$$\textcircled{5} \quad \text{FOR} = \begin{Bmatrix} 25 & 50 & 200 & 20 \\ 28 & 60 & 150 & 22 \end{Bmatrix}$$

$$\left\{ \begin{array}{l} \left\{ \begin{array}{l} 1,00 \\ 8,00 \\ 0,90 \\ 1,50 \end{array} \right\} \\ \left\{ \begin{array}{l} 1,00 \\ 10,00 \\ 0,60 \\ 1,00 \end{array} \right\} \end{array} \right.$$

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$$\begin{pmatrix} 1 & 0 \\ 1 & 2 \end{pmatrix} \quad AA^T = \begin{pmatrix} 1+0 & -1+0 \\ -1+0 & 1+4 \end{pmatrix}$$

$$AA^T = \begin{pmatrix} 1 & -1 \\ -1 & 5 \end{pmatrix}$$

④

$$A = \begin{pmatrix} 1 & 2 & 3 \\ 3 & 4 & 6 \end{pmatrix}$$

$$B = \begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$$

$$AB = \begin{pmatrix} 1+4+6 \\ 3+8+18 \end{pmatrix}$$

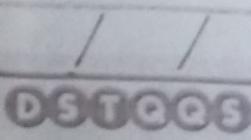
$$AB = \begin{pmatrix} 10 \\ 29 \end{pmatrix}$$

$C_1 = 2$

ALTERNATIVA A

50) $A = \begin{pmatrix} 25 & 50 & 200 & 20 \\ 28 & 60 & 150 & 22 \end{pmatrix}$

$$\begin{pmatrix} 1,00 & 1,00 \\ 8,00 & 10,00 \\ 0,90 & 0,80 \\ 1,50 & 1,00 \end{pmatrix}$$



$$\textcircled{6} \quad \begin{matrix} \left\{ \begin{matrix} 0 & -1 & 2 \\ 2 & \alpha & 1 & 3 \\ 2 & -1 & 0 & 3 \end{matrix} \right\} & \left\{ \begin{matrix} a_{12} = 1 \\ a_{13} = 0 \\ a_{23} = 2 \end{matrix} \right\} \end{matrix}$$

$$\alpha - 1 = 0$$

$\alpha = 0 + 1$ ALTERNATIVA

$\alpha = 1$ E

PARTICULARIDADES SOBRE PRODUTO MATRICIAL -

TAREFA BÁSICA

D AFIRMATIVA A, pois a TRANSVERSAL ELEVA
TRANSVERSAL É A MATRIZ ORIGINAL

D AFIRMATIVA D, pois no caso de MATRIZ

$$\textcircled{6} \quad \begin{matrix} 5 & 0 & -1 & 2 \\ 2 & \times & 1 & 3 \end{matrix} \cdot \begin{matrix} \alpha & 1 & 2 \\ 2 & -1 & 0 & 3 \end{matrix} = \begin{matrix} 1 & 0 & 2 \\ 0 & 1 & 3 \end{matrix}$$

$$\alpha - 1 = 0$$

$\alpha = 0 + 1$ ALTERNATIVA

$\alpha = 1$ E

PARTICULARIDADES SOBRE PRODUTO
MATRICIAL -

TAREFA BÁSICA

① AFIRMATIVA A, POIS A TRANSVERSAL ELEVADA
A TRANSVERSAL É A MATRIZ ORIGINAL

② AFIRMATIVA D, POIS NO CASO DE MATRIZES
QUADRADAS A ORDEM DOS FATORES NÃO MUDA O
PRODUTO.

③ ALTERNATIVA B POIS SEMPRE SERÁ A QUAN-
TIDADE VEZES O PREÇO $\begin{pmatrix} 5 & 5 & 8 & 10 & 2 \\ 9 & 6 & 4 & 3 \end{pmatrix}, \{x\}_2^3$

④ ALTERNATIVA C