Linjär Algebra
Matrisoperationer transponat

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1. Find $(A+B)^T$.

$$A = \begin{bmatrix} 2 & -1 & 3 \\ 4 & -1 & 2 \end{bmatrix},\ B = \begin{bmatrix} 1 & 2 & 0 \\ 1 & -2 & 3 \\ 0 & 4 & -2 \end{bmatrix}$$

2. Compute $(2C)^T$.

$$C = \begin{bmatrix} 3 & -2 & 1 \\ 0 & 4 & -3 \\ 1 & -3 & -3 \end{bmatrix}$$

3. Determine $(DE)^T$.

$$D = \begin{bmatrix} 2 & 1 & 0 \\ 1 & -1 & 3 \\ 2 & 0 & -2 \end{bmatrix},\ E = \begin{bmatrix} 1 & 0 & 2 \\ 2 & 3 & -1 \\ 2 & -2 & 1 \end{bmatrix}$$

4. Calculate $(Fv)^T$.

$$F = \begin{bmatrix} 3 & 1 & 2 \\ 0 & -2 & 1 \\ 1 & -4 & -1 \end{bmatrix},\ v = \begin{bmatrix} 2 \\ -1 \\ 3 \end{bmatrix}$$

5. Compute $((G+H)I)^T$.

$$G = \begin{bmatrix} 2 & -1 & 1 \\ 3 & 4 & -1 \\ -1 & 0 & 3 \end{bmatrix},\ H = \begin{bmatrix} -2 & 1 & 0 \\ -1 & -2 & 1 \\ 0 & -2 & 1 \end{bmatrix},\ I = \begin{bmatrix} 1 & -3 & 2 \\ 2 & 0 & 0 \\ 0 & 1 & 4 \end{bmatrix}$$

6. Calculate $\mathbf{M} \times \mathbf{N}$.

$$\mathbf{M} = \begin{bmatrix} 2 & -1 \\ 3 & 4 \\ -2 & 3 \end{bmatrix}, \quad \mathbf{N} = \begin{bmatrix} -2 & 3 & 0 & 1 \\ 1 & 0 & -2 & 3 \end{bmatrix}$$

7. Compute $\mathbf{P} \times \mathbf{Q}$.

$$\mathbf{P} = \begin{bmatrix} 1 & -3 \\ 2 & -2 \\ -1 & 4 \\ 3 & 1 \end{bmatrix}, \quad \mathbf{Q} = \begin{bmatrix} 0 & -2 & 1 & 5 \\ -3 & 2 & 4 & -1 \end{bmatrix}$$

8. Determine $\mathbf{R} \times \mathbf{S}$.

$$\mathbf{R} = \begin{bmatrix} 2 & -1 & 4 & 0 \\ 3 & 4 & 1 & 2 \\ -2 & 3 & 0 & -1 \end{bmatrix}, \quad \mathbf{S} = \begin{bmatrix} -2 & 3 \\ 1 & 0 \\ 3 & -1 \\ 0 & 2 \end{bmatrix}$$