

Definice podmatic \mathbb{A}_{ij}

$$\mathbb{A} = \begin{pmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ a_{21} & a_{22} & a_{23} & a_{24} \\ a_{31} & a_{32} & a_{33} & a_{34} \\ a_{41} & a_{42} & a_{43} & a_{44} \end{pmatrix}$$

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$$\mathbb{A}_{11} =$$

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$$\mathbb{A} = \begin{pmatrix} & & \\ a_{22} & a_{23} & a_{24} \\ a_{32} & a_{33} & a_{34} \\ a_{42} & a_{43} & a_{44} \end{pmatrix}$$

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$$\mathbb{A}_{11} = \begin{pmatrix} a_{22} & a_{23} & a_{24} \\ a_{32} & a_{33} & a_{34} \\ a_{42} & a_{43} & a_{44} \end{pmatrix} \quad \mathbb{A}_{13} =$$

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$$\mathbb{A}_{11} = \begin{pmatrix} a_{22} & a_{23} & a_{24} \\ a_{32} & a_{33} & a_{34} \\ a_{42} & a_{43} & a_{44} \end{pmatrix} \quad \mathbb{A}_{13} =$$

Definice podmatic \mathbb{A}_{ij}

$$\mathbb{A} = \begin{pmatrix} & & & \\ a_{21} & a_{22} & & a_{24} \\ a_{31} & a_{32} & & a_{34} \\ a_{41} & a_{42} & & a_{44} \end{pmatrix}$$

$$\mathbb{A}_{11} = \begin{pmatrix} a_{22} & a_{23} & a_{24} \\ a_{32} & a_{33} & a_{34} \\ a_{42} & a_{43} & a_{44} \end{pmatrix} \quad \mathbb{A}_{13} =$$

Definice podmatic \mathbb{A}_{ij}

$$\mathbb{A} = \begin{pmatrix} & & \\ a_{21} & a_{22} & a_{24} \\ a_{31} & a_{32} & a_{34} \\ a_{41} & a_{42} & a_{44} \end{pmatrix}$$

$$\mathbb{A}_{11} = \begin{pmatrix} a_{22} & a_{23} & a_{24} \\ a_{32} & a_{33} & a_{34} \\ a_{42} & a_{43} & a_{44} \end{pmatrix} \quad \mathbb{A}_{13} = \begin{pmatrix} a_{21} & a_{22} & a_{24} \\ a_{31} & a_{32} & a_{34} \\ a_{41} & a_{42} & a_{44} \end{pmatrix}$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} =$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} =$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = (-1)^{1+1}$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = (-1)^{1+1} \cdot a_{11}$$

Determinant maticice 2×2

$$\left| \begin{array}{c} \\ a_{22} \end{array} \right| = (-1)^{1+1} \cdot a_{11} \cdot a_{22}$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = (-1)^{1+1} \cdot a_{11} \cdot a_{22}$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = (-1)^{1+1} \cdot a_{11} \cdot a_{22} + (-1)^{2+1}$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = (-1)^{1+1} \cdot a_{11} \cdot a_{22} + (-1)^{2+1} \cdot a_{21}$$

Determinant matices 2×2

$$\left| \begin{array}{c} a_{12} \\ \end{array} \right| = (-1)^{1+1} \cdot a_{11} \cdot a_{22} + (-1)^{2+1} \cdot a_{21} \cdot \textcolor{red}{a_{12}}$$

Determinant maticice 2×2

$$\begin{vmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{vmatrix} = (-1)^{1+1} \cdot a_{11} \cdot a_{22} + (-1)^{2+1} \cdot a_{21} \cdot a_{12} = a_{11}a_{22} - a_{21}a_{12}$$

Determinant maticice 3×3

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$

Determinant maticce 3×3

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix} = (-1)^{1+1} a_{11} \cdot \begin{vmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{vmatrix}$$

Determinant matices 3×3

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix} = (-1)^{1+1} a_{11} \cdot \begin{vmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{vmatrix} + (-1)^{2+1} a_{21} \cdot \begin{vmatrix} a_{12} & a_{13} \\ a_{32} & a_{33} \end{vmatrix}$$

Determinant matices 3×3

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix} = (-1)^{1+1} a_{11} \cdot \begin{vmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{vmatrix} + (-1)^{2+1} a_{21} \cdot \begin{vmatrix} a_{12} & a_{13} \\ a_{32} & a_{33} \end{vmatrix} + (-1)^{3+1} a_{31} \cdot \begin{vmatrix} a_{12} & a_{13} \\ a_{22} & a_{23} \end{vmatrix}$$

Determinant matices 3×3

$$\begin{aligned} \begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix} &= (-1)^{1+1} a_{11} \cdot \begin{vmatrix} a_{22} & a_{23} \\ a_{32} & a_{33} \end{vmatrix} \\ &\quad + (-1)^{2+1} a_{21} \cdot \begin{vmatrix} a_{12} & a_{13} \\ a_{32} & a_{33} \end{vmatrix} + (-1)^{3+1} a_{31} \cdot \begin{vmatrix} a_{12} & a_{13} \\ a_{22} & a_{23} \end{vmatrix} \\ &= \color{red}{a_{11}a_{22}a_{33} - a_{11}a_{23}a_{32} - a_{21}a_{12}a_{33}} \\ &\quad \color{red}{+ a_{21}a_{13}a_{32} + a_{31}a_{12}a_{23} - a_{31}a_{13}a_{22}} \end{aligned}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$
$$a_{11} \quad a_{12} \quad a_{13}$$
$$a_{21} \quad a_{22} \quad a_{23}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$
$$= a_{11} a_{22} a_{33}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$
$$= a_{11}a_{22}a_{33} + a_{21}a_{32}a_{13}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ \color{red}{a_{31}} & a_{32} & a_{33} \end{vmatrix}$$
$$a_{11} \color{red}{a_{12}} \color{green}{a_{13}} + a_{21} a_{32} a_{13} + \color{red}{a_{31} a_{12} a_{23}}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{vmatrix}$$
$$= a_{11}a_{22}a_{33} + a_{21}a_{32}a_{13} + a_{31}a_{12}a_{23}$$
$$- a_{13}a_{22}a_{31}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \\ \hline a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{vmatrix}$$

$$= a_{11}a_{22}a_{33} + a_{21}a_{32}a_{13} + a_{31}a_{12}a_{23} - a_{13}a_{22}a_{31} - a_{23}a_{32}a_{11}$$

Determinant matice 3×3 – Sarusovo pravidlo

$$\begin{vmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & \color{red}{a_{33}} \end{vmatrix}$$
$$\begin{matrix} a_{11} & \color{red}{a_{12}} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{matrix}$$

$$= a_{11}a_{22}a_{33} + a_{21}a_{32}a_{13} + a_{31}a_{12}a_{23} - a_{13}a_{22}a_{31} - a_{23}a_{32}a_{11} - \color{red}{a_{33}a_{12}a_{21}}$$