

Metoda Banachiewicza-Cholesky'ego

ORIGIN := 1

Grupa 2

Handwritten matrix A:

$$\tilde{A} = \begin{pmatrix} 10 & -1 & 2 & -1 \\ & 15 & 0 & 1 \\ & & 14 & 2 \\ & & & 11 \end{pmatrix}$$

The word "sym" is written across the matrix, indicating it is symmetric.

$$\tilde{A} := \begin{pmatrix} 10 & -1 & 2 & -1 \\ -1 & 15 & 0 & 1 \\ 2 & 0 & 14 & 2 \\ -1 & 1 & 2 & 11 \end{pmatrix}$$

$$L_{i,i} = \sqrt{A_{i,i} - \sum_{k=1}^{i-1} (L_{i,k})^2}$$

$$L_{i,j} = \left[A_{i,j} - \sum_{k=1}^{j-1} (L_{i,k} \cdot L_{j,k}) \right] \cdot \frac{1}{L_{j,j}}$$

$j < i$

L =

	1	2	3	4
1	3.1623	0	0	0
2	-0.3162	3.8601	0	0
3	0.6325	0.0518	3.6875	0
4	-0.3162	0.2332	0.5933	3.2394

Grupa 1

$$A = \begin{pmatrix} 12 & -1 & 2 & 2 \\ -1 & 14 & -3 & 1 \\ 2 & -3 & 15 & 4 \\ 2 & 1 & 4 & 11 \end{pmatrix}$$

$$A := \begin{pmatrix} 12 & -1 & 2 & 2 \\ -1 & 14 & -3 & 1 \\ 2 & -3 & 15 & 4 \\ 2 & 1 & 4 & 11 \end{pmatrix}$$

$$L_{i,i} = \sqrt{A_{i,i} - \sum_{k=1}^{i-1} (L_{i,k})^2}$$

$$L_{i,j} = \left[A_{i,j} - \sum_{k=1}^{j-1} (L_{i,k} \cdot L_{j,k}) \right] \cdot \frac{1}{L_{j,j}}$$

$$j < i$$

$L =$

	1	2	3	4
1	3.4641	0	0	0
2	-0.2887	3.7305	0	0
3	0.5774	-0.7595	3.7536	0
4	0.5774	0.3127	1.0401	3.0801