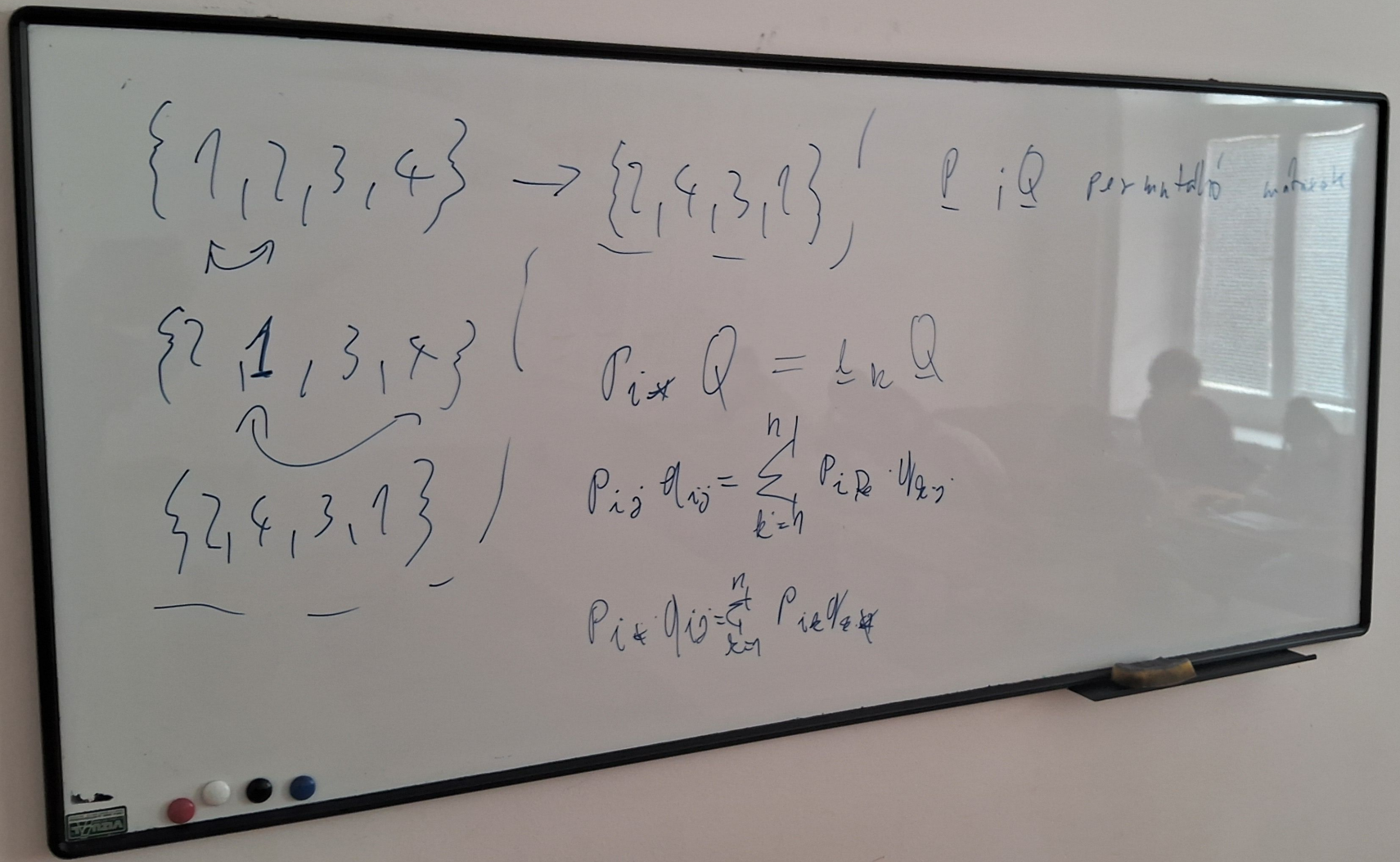

{1,2,3,4} → {2,4,3,1}
P i Q permutační matice
{2,1,3,4}
{2,4,3,1}
σ_{i*} Q = i_n Q
p_{ij} q_{ij} = Σ_{k=1}^{n} p_{ik} · q_{kj}
p_{i*} q_{ij} = Σ_{k=1}^{n} p_{ik} q_{k*}

$e_k \vee P_{i*}$

$$P = \begin{pmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$P \cdot Q = \begin{pmatrix} 0 & 0 & 1 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \end{pmatrix}$$

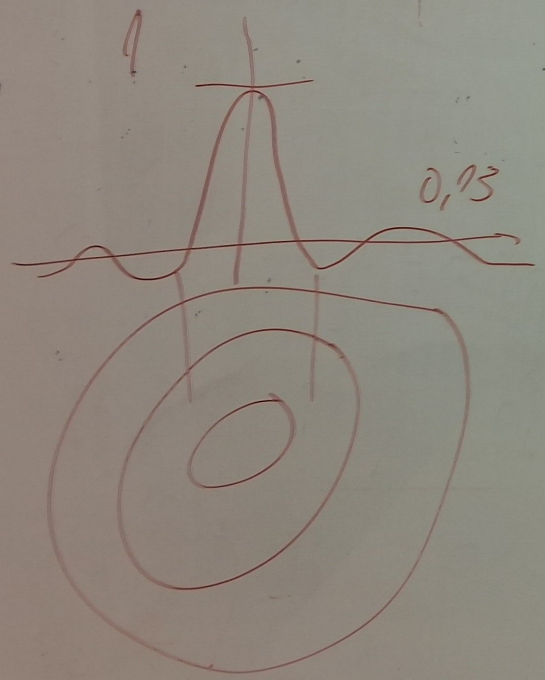
$$P^T = \begin{pmatrix} 0 & 1 & 0 \\ 1 & 0 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

$$Q = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 0 & 1 \\ 0 & 1 & 0 \end{pmatrix}$$

$$P_{i*} Q = e_k Q$$

$$P \cdot P^T = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} = E_3$$

$$U\Delta: \begin{pmatrix} 1 & 2 & 3 \\ 0 & 1 & 4 \\ 0 & 0 & 2 \end{pmatrix} \quad LD: \begin{pmatrix} 1 & 0 & 0 \\ 1 & 2 & 0 \\ 1 & 1 & 3 \end{pmatrix}$$



$$a_{ij} \otimes b_{ij} = a_{ij}\lceil a_{ij} - b_{ij}\rceil$$

$$b_{ij} = 0,13$$