

LASTNOSTI KARTEZIČNEGA PRODUKTA

1. Kartezični produkt in unija:

$$\begin{aligned}A \times (B \cup C) &= (A \times B) \cup (A \times C) \\(A \cup B) \times C &= (A \times C) \cup (B \times C)\end{aligned}$$

2. Kartezični produkt in presek:

$$(A \cap B) \times (C \cap D) = (A \times C) \cap (B \times D)$$

Posledici:

$$\begin{aligned}A \times (C \cap D) &= (A \times C) \cap (A \times D) \quad \text{če izberemo } A = B \\(A \cap B) \times C &= (A \times C) \cap (B \times C) \quad \text{če izberemo } C = D\end{aligned}$$

3. $A \times B = \emptyset \Leftrightarrow A = \emptyset \vee B = \emptyset$

4. $A \subseteq C \wedge B \subseteq D \Rightarrow A \times B \subseteq C \times D$

5. $A \times B \subseteq C \times D \wedge A \times B \neq \emptyset \Rightarrow A \subseteq C \wedge B \subseteq D$

6. $|A| = k \wedge |B| = \ell \Rightarrow |A \times B| = k \cdot \ell$