IZPIT TOR 1 11.2.2021

1.) $(A \wedge \neg B) \vee (\neg A \Rightarrow C) \Longrightarrow \neg(\neg B \Rightarrow \neg C)$

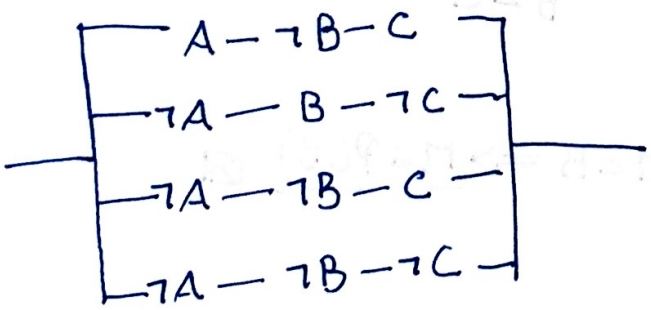
$(A \wedge \neg B) \vee (\neg A \Rightarrow C) \Longrightarrow \neg(B \vee \neg C)$

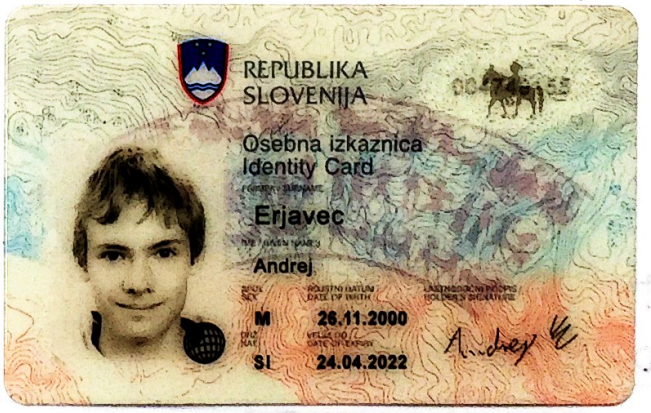
$(A \wedge \neg B) \vee (\neg A \Rightarrow C) \Longrightarrow (\neg B \wedge C)$

A	B	C	¬A	¬B	A∧¬B	¬A⇒C	① (A∧¬B)∨(¬A⇒C)	② (¬B∧C)	①⇒②
1	1	1	0	0	0	1	1	0	0
1	1	0	0	0	0	1	1	0	0
1	0	1	0	1	1	1	1	1	1
1	0	0	0	1	1	1	1	0	0
0	1	1	1	0	0	1	1	0	0
0	1	0	1	0	0	0	0	0	1
0	0	1	1	1	0	1	1	1	1
0	0	0	1	1	0	0	0	0	1

KNO: $(\neg A \vee \neg B \vee \neg C) \wedge (\neg A \vee \neg B \vee C) \wedge (\neg A \vee B \vee C) \wedge (A \vee \neg B \vee \neg C)$

DNO: $(A \wedge \neg B \wedge C) \vee (\neg A \wedge B \wedge \neg C) \vee (\neg A \wedge \neg B \wedge C) \vee (\neg A \wedge \neg B \wedge \neg C)$





$(\neg, \wedge)$

$(A \wedge \neg B) \vee (\neg A \Rightarrow C) \Longrightarrow (\neg B \wedge C)$

$((A \wedge \neg B) \vee (A \vee C)) \Longrightarrow (\neg B \wedge C)$

$\neg((A \wedge \neg B) \vee (A \vee C)) \vee (\neg B \wedge C)$

$(\neg(A \wedge \neg B) \wedge (\neg A \wedge \neg C)) \vee (\neg B \wedge C)$

$((\neg A \vee B) \wedge (\neg A \wedge \neg C)) \vee (\neg B \wedge C)$

$\rightarrow (\neg(A \wedge \neg B) \wedge (\neg A \wedge \neg C)) \vee (\neg B \wedge C)$

$\neg(\neg(\neg(A \wedge \neg B) \wedge (\neg A \wedge \neg C)) \wedge (\neg(\neg B \wedge C)))$

2.) $S=\{1,2,3,4\}$ USEB: $(2,3),(4,1)$

I) SIMETRIČNA, TRANZITIVNA

$R_1=\{(2,3),(4,1),(3,2),(1,4),(2,2),(4,4),(1,1),(2,3)\}$

II) $D(R_2)=\{1,2,3,4\}$ $Z(R_2)\neq\{1,2,3,4\}$

$R_2=\{(2,3),(4,1)(1,5),(3,7)\}$

III) IREFLEKSIVNA, TRANZITIVNA ⊕

~~$R_3=\{(2,3),(4,1),(3,1),(1,3),(2,1),(4,3),(3,2),(2,5),(5,1),(1,2)$~~

3.) $(A\cup B=A\cup C)\Rightarrow B=C$

$(x\in A\vee x\in B\Leftrightarrow x\in A\vee x\in C)$

TOREJ NE DRŽI

A-UVEDLO ENAKA

$A=\{1,2,3\}$ $B=\{3,4,5\}$ $C=\{4,5\}$

$A\cup B=\{1,2,3,4,5\}$ $A\cup C=\{1,2,3,4,5\}$

AMPAK $B\neq C$ (PROTIPRIMER)

II) $P(A)\subset P(B)\Rightarrow A\subset B$

$M\in P(A)\wedge A\subset B\Leftrightarrow M\subset A\subset B\Rightarrow M\subset B\Rightarrow \underline{M\in P(B)}$ ⊠

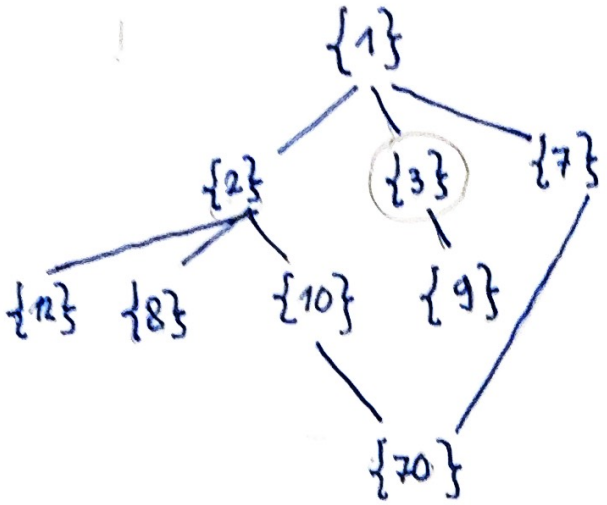
DRŽI

⊕ III) IREFLEKSIVNA, TRANZITIVNA

$R_3=\{(2,3),(4,1),(3,2),(1,2),(1,3)$

$R_3=\{(2,3),(4,1),(3,4),(2,4),(2,1),(1,3)$

4.) $S=\{1,2,3,7,8,9,10,12,70\}$ $x R y \iff y$ DELI x



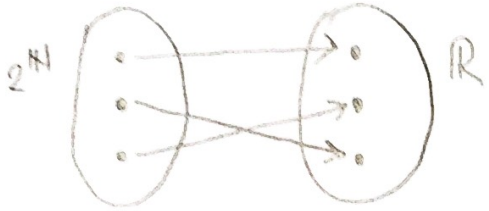
- R-MINIMALNI: $\{70\}$
- R-MAKSIMALNI: $\{1\}$

$U \subseteq S$: 3-R-SP. MEJA OD S:

$\{1\}$

S TEMA STRUKTURE MREŽE, SAJ NPR. MNOŽICA Z ELEMENTOMA $\{12\}$ IN $\{8\}$ NE PREMORE INFIMUMA.

5.) $f: 2^{\mathbb{N}} \longrightarrow \mathbb{R}$ ~~$2^{\mathbb{N}} = \{2, 4, 8, 16, 32, \dots\}$~~



INJEKTIVNA

$2^{\mathbb{N}} = \mathcal{P}(\mathbb{N})$

$\mathcal{P}(\mathbb{N}) \longrightarrow \mathbb{R}$

~~VSAKI POTENČNI MNO~~

VSAKI PODMNOŽICI POTENČNE MNOŽICE PRIREDIMO ENO REALNO ŠTEVILO.