МКР №1

з математичної логіки

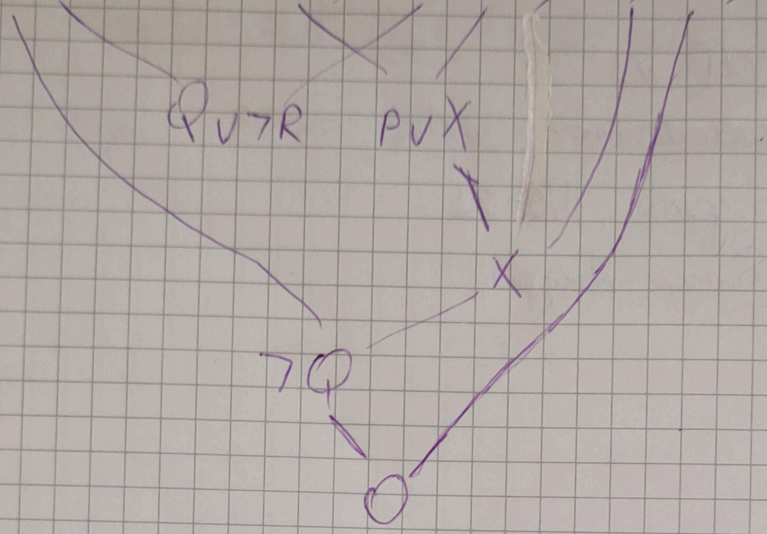
студента ІПС-21

Рубана Андрія

③ Методом резолюції

$\{X \to \neg Q,\ \neg P \to R,\ X \vee \neg R\} \models P \vee \neg Q$

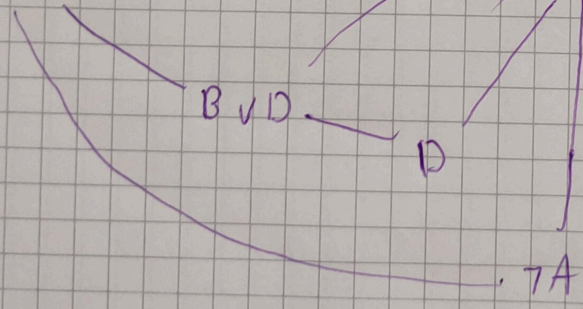
$\{\neg X \vee \neg Q,\ P \vee R,\ X \vee \neg R,\ \neg P,\ Q\}$



Вірно.

① $\{A \to B,\ C \to D,\ A \vee D\} \models B \vee C$

$\{\neg A \vee B,\ \neg C \vee D,\ A \vee D,\ \neg B,\ \neg C\}$



Суперечності немає. Контрприклад

$T(A) = T$

$T(B) = F$

$T(C) = F$

$T(D) = T$

(4) Якщо $\vdash A \to (B \to C)$, то $\vdash A \to C$

$\vdash A \to (B \to C), \dashv A \to C$ ($\dashv \to$)

$\vdash A, \dashv C, \vdash A \to (B \to C)$ ($\vdash \to$)

$\dashv A, \vdash A, \dashv C$ | $\vdash (B \to C), \vdash A, \dashv C$ ($\vdash \to$)

X

$\vdash B, \vdash A, \dashv C$ | $\vdash C, \vdash A, \dashv C$

дерево незамкнене

X

$\hat{\iota}(A) = T$

$\hat{\iota}(B) = F$

$\hat{\iota}(C) = F$

(5) $((A \to C) \& (B \to C)) \to (A \vee B \to C)$

$\dashv ((A \to C) \& (B \to C)) \to (A \vee B \to C)$ ($\dashv \to$)

$\vdash ((A \to C) \& (B \to C)), \dashv (A \vee B \to C)$ ($\dashv \to$)

$\vdash A \vee B, \dashv C, \vdash ((A \to C) \& (B \to C))$ ($\vdash \&$)

$\vdash (A \to C), \vdash (B \to C), \vdash A \vee B, \dashv C$ ($\vdash \to$)

$\dashv A, \vdash A \vee B, \dashv C$ ($\vdash \vee$) | $\vdash C, \vdash A \vee B, \dashv C$

X

$\vdash A, \dashv A, \dashv C$ | $\vdash B, \dashv A, \dashv C$

X

дерево незамкнене

$\hat{\iota}(A) = T$ $\hat{\iota}(B) = F$ $\hat{\iota}(C) = F$