

Proof system

$\rightarrow, \neg$

Axioms

Modus ponens

$$A \rightarrow B$$

$$A$$

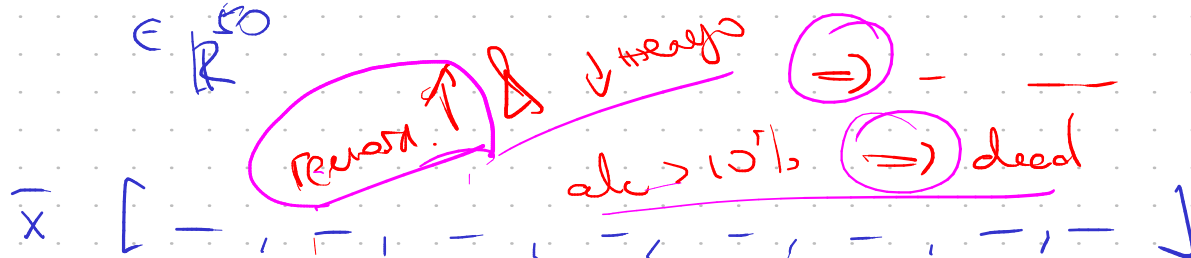
$$\hline B$$

$$\left\{ \begin{array}{l} \varphi \rightarrow (\varphi \rightarrow \varphi) \\ (\varphi \rightarrow (\varphi \rightarrow \chi)) \rightarrow ((\varphi \rightarrow \varphi) \rightarrow (\varphi \rightarrow \chi)) \\ (\neg \varphi \rightarrow \neg \chi) \rightarrow (\chi \rightarrow \varphi) \end{array} \right\}$$

ZFC - Zermelo - Fraenkel + choice

$$f: \bar{x} \mapsto \{ \text{weights } 1, \dots, n \}$$

$$\in \mathbb{R}^{50}$$



$$\bar{x} \in \mathbb{R}^{50}$$

MYCIN

H - "strep"

if H then



CF - certainty factor $\in [-1, 1]$

If $t^0 > 38$ & нет каменей $\Rightarrow H, CF = 0.6$

If есть каменей $\vee$ наводнение $\Rightarrow H, CF = -0.3$

If каменей на муч. $\Rightarrow H, CF = 0.5$

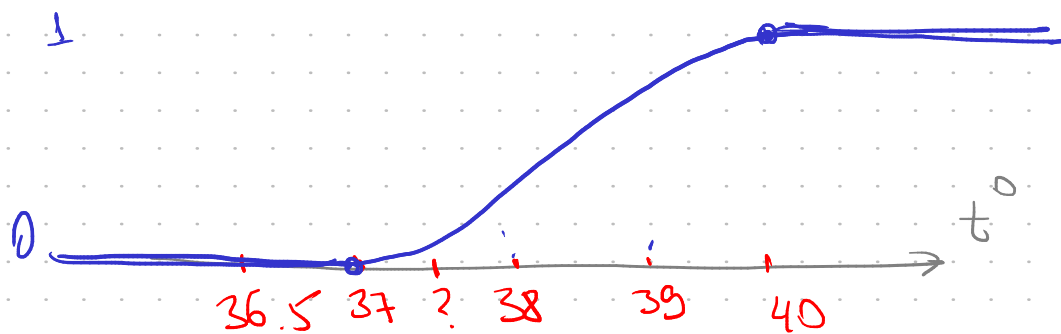
$$H: CF_1 = 0.6 \quad CF_2 = 0.5$$

$$CF = CF_1 + CF_2 - (1 - |CF_1|) \quad \text{если } CF_1 \leq 0 \text{ и } CF_2 \geq 0$$

$$CF_1 = -0.3, CF_2 = 0.5$$

$$CF = \frac{CF_1 + CF_2}{1 - \min(|CF_1|, |CF_2|)} \quad \text{если знаки разные}$$

Если t^0 высокая, то ...



fuzzy
set theory
fuzzy
logic

$$(x) \xrightarrow{r} (y)$$

$(x,$ $r,$ $y)$
 $\underbrace{\hspace{1cm}}$ $\underbrace{\hspace{1cm}}$ $\underbrace{\hspace{1cm}}$
 subject relation predicate