Structura

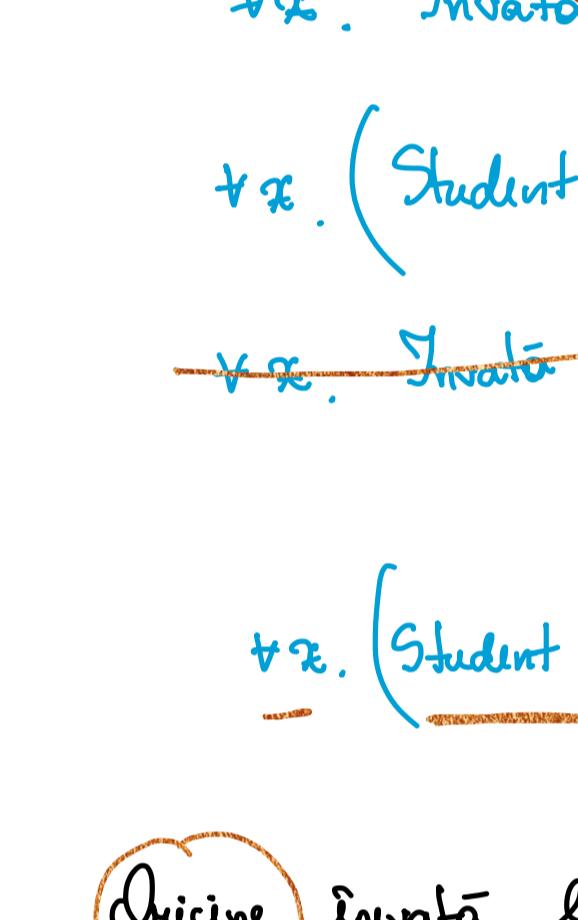
$$\begin{aligned} 1. (\mathbb{R}, \{\leq, =\}, \{+, -, 0, 1\}) \\ 2. (\text{Colori}, \{\leq, =\}, \{+, -, 0, 1\}) \end{aligned}$$

Signature

$$\begin{aligned} \Sigma = (\{\leq, =\}, \{+, -, 0, 1\}) & \text{ confuzie?!} \\ \Sigma = (\{P, Q\}, \{f, g, c_1, c_2\}) \\ ar(P) = 2 & ar(f) = 2 & ar(c_1) = 0 \\ ar(Q) = 2 & ar(g) = 1 & ar(c_2) = 0 \end{aligned}$$

$$i(i(x)) \in \mathcal{T}$$

$$\forall x \in X \xrightarrow{x \in F_1} \exists i \in F_2 \xrightarrow{i(x) \in \mathcal{T}} \forall x \in F_1 \xrightarrow{i(x) \in \mathcal{T}}$$

Ex 3.2.

$$\Sigma = (\{\text{Student}, \text{Invata}, \text{Trace}, \text{Dom}\}, \{i\})$$

$$\begin{aligned} ar(\text{Student}) &= 1 & ar(i) &= 0 \\ ar(\text{Invata}) &= 1 & ar(\text{Trace}) &= 1 & ar(\text{Dom}) &= 1 \end{aligned}$$

Iată este student.  $i \in \text{Student}$   $\text{Student}(i)$

Orice student învăță la logica  $\text{Invata}$

$$\forall x. (\text{Student}(x) \rightarrow \text{Invata}(x))$$

$$\text{daca } \forall x. P(x) \wedge \forall y. P(y) \rightarrow P(x+y)$$

$$\Sigma, \alpha \models P(f(i(x), e), i(x))$$

$$\text{daca } \overline{P}_1(f(i(x), e)) \wedge \overline{P}_1(i(x)) = 1$$

$$\text{daca } \overline{P}_1(f(i(x), e)) = \overline{P}_1(i(x)) = 1$$

$$\text{daca } -1 = -1 \quad "1"$$

$$\text{daca } \exists u. \text{daca pt. orice } u \in \mathbb{Z} \text{ avem } S_1, \alpha[x \mapsto u] \models P(x, i(x))$$

$$\text{daca pt. orice } u \in \mathbb{Z} \text{ avem } P(\overline{x}(x), \overline{i}(i(x))) = 1$$

$$\text{daca pt. orice } u \in \mathbb{Z} \text{ avem } u = -u \quad "A"$$

$$\Sigma, \alpha \models \exists x. P(x, i(x))$$

$$\text{daca există } u \in \mathbb{Z} \text{ a.s. } \Sigma, \alpha[x \mapsto u] \models P(x, i(x))$$

$$\exists x, \exists y, \exists z, \exists u$$

$$\text{daca } \exists x. P(x, i(x))$$

$$\text{daca } \exists u. \text{daca pt. orice } u \in \mathbb{Z} \text{ avem } S_1, \alpha[x \mapsto u] \models P(x, i(x))$$

$$\text{daca pt. orice } u \in \mathbb{Z} \text{ avem } P(\overline{x}(x), \overline{i}(i(x))) = 1$$

$$\text{daca pt. orice } u \in \mathbb{Z} \text{ avem } u = -u \quad "A"$$

$$\exists x, \exists y, \exists z, \exists u$$