PREDIKAATLOOGIKA: SEKVENTSIARVUTUS

- Predikaatloogika sekventsiarvutus (tagasisuunalisele otsimisele orienteeritud versioon) on antud järgmiste aksioomide ja tuletusreeglitega:

$$\frac{}{\Gamma, A \to A, \Delta}\ \text{id.}$$

$$\frac{}{\Gamma \to \top, \Delta}\ \top\mathcal{R} \qquad \frac{}{\Gamma, \bot \to \Delta}\ \bot\mathcal{L}$$

$$\frac{\Gamma \to A, \Delta \quad \Gamma \to B, \Delta}{\Gamma \to A \wedge B, \Delta}\ \wedge\mathcal{R} \qquad \frac{\Gamma, A, B \to \Delta}{\Gamma, A \wedge B \to \Delta}\ \wedge\mathcal{L}$$

$$\frac{\Gamma \to A, B, \Delta}{\Gamma \to A \vee B, \Delta}\ \vee\mathcal{R} \qquad \frac{\Gamma, A \to \Delta \quad \Gamma, B \to \Delta}{\Gamma, A \vee B \to \Delta}\ \vee\mathcal{L}$$

$$\frac{\Gamma, A \to B, \Delta}{\Gamma \to A \supset B, \Delta}\ \supset\mathcal{R} \qquad \frac{\Gamma \to A, \Delta \quad \Gamma, B \to \Delta}{\Gamma, A \supset B \to \Delta}\ \supset\mathcal{L}$$

$$\frac{\Gamma, A \to \Delta}{\Gamma \to \neg A, \Delta}\ \neg\mathcal{R} \qquad \frac{\Gamma \to A, \Delta}{\Gamma, \neg A \to \Delta}\ \neg\mathcal{L}$$

$$\frac{\Gamma \to A[y/x], \Delta}{\Gamma \to \forall x.\ A, \Delta}\ \forall\mathcal{R}^\star \qquad \frac{\Gamma, \forall x.\ A, A[t/x] \to \Delta}{\Gamma, \forall x.\ A \to \Delta}\ \forall\mathcal{L}$$

$$\frac{\Gamma \to A[t/x], \exists x.\ A, \Delta}{\Gamma \to \exists x.\ A, \Delta}\ \exists\mathcal{R} \qquad \frac{\Gamma, A[y/x] \to \Delta}{\Gamma, \exists x.\ A \to \Delta}\ \exists\mathcal{L}^\dagger$$

* y ei tohi vabalt esineda valemis $\forall x.\ A$ ja valemihulkades Γ, Δ

† y ei tohi vabalt esineda valemis $\exists x.\ A$ ja valemihulkades Γ, Δ