

考虑如下公式, 记作 σ

$$\left(\begin{array}{l} \text{conditions enforcing} \\ T \subseteq \mathbb{N} \text{ consists of the} \\ \quad \text{numbers representing terms} \\ F \subseteq \mathbb{N} \quad \dots \dots \text{formulas} \\ TF \subseteq \mathbb{N} \quad \dots \dots \text{provable formulas} \end{array} \right) \rightarrow \forall \varphi \left(\varphi = \boxed{} \rightarrow \forall \psi \left(\begin{array}{l} \text{conditions enforcing} \\ \psi \text{ is the outcome of} \\ \text{replacing first } \Delta \text{ in } \varphi \text{ by } \varphi \end{array} \right) \rightarrow (\neg \psi \in TF) \right) \right)$$

其中 $\boxed{}$ 部分是表示如下字符串 (不是公式) 的数

$$\left(\begin{array}{l} \text{conditions enforcing} \\ T \subseteq \mathbb{N} \text{ consists of the} \\ \quad \text{numbers representing terms} \\ F \subseteq \mathbb{N} \quad \dots \dots \text{formulas} \\ TF \subseteq \mathbb{N} \quad \dots \dots \text{provable formulas} \end{array} \right) \rightarrow \forall \varphi \left(\varphi = \Delta \rightarrow \forall \psi \left(\begin{array}{l} \text{conditions enforcing} \\ \psi \text{ is the outcome of} \\ \text{replacing first } \Delta \text{ in } \varphi \text{ by } \varphi \end{array} \right) \rightarrow (\neg \psi \in TF) \right) \right)$$

不难看出, 公式 σ 等价于

$$\left(\begin{array}{l} \text{conditions enforcing} \\ T \subseteq \mathbb{N} \text{ consists of the} \\ \quad \text{numbers representing terms} \\ F \subseteq \mathbb{N} \quad \dots \dots \text{formulas} \\ TF \subseteq \mathbb{N} \quad \dots \dots \text{provable formulas} \end{array} \right) \rightarrow (\neg \sigma \in TF)$$