1 All

$$\text{lev}_{a,b}(i,j) = \begin{cases} max(i,j), & min(i,j) = 0 \\ min \begin{cases} \text{lev}_{a,b}(i-1,j)+1 \\ \text{lev}_{a,b}(i,j-1)+1 \\ \text{lev}_{a,b}(i-1,j-1)+(a \neq b) \end{cases} \end{cases}$$

2 Ambiguity Equations

$$\text{dist}(S_1,S_2) = \frac{\text{lev}(S_1,S_2)}{\max(\text{len}(S_1),\text{len}(S_2))}$$

$$\begin{aligned} \text{dist}(S_1,S_2) &= \frac{\text{lev}(S_1,S_2)}{\max(\text{len}(S_1),\text{len}(S_2))} \\ &= \frac{1}{\max(21,20)} \\ &= \frac{1}{21} \end{aligned}$$

3 CS Grammar

λt ::= `()` `->` t
| `->` t

v ::= `true`
| `false`
| λt

t ::= v
| λt`()`
| t t

4 Grammar Examples

λ`false()`

λ`true true`

$\lambda\lambda$`true() true`

5 Evaluation Rules/Relation

$$\frac{}{\lambda t\texttt{()} \to t} \quad (e\text{-}inv)$$

$$\frac{}{\lambda t\ v \to t} \quad (e\text{-}app)$$

$$\frac{t_2 \to t_2'}{t_1\ t_2 \to t_1\ t_2'} \quad (e\text{-}arg\text{-}eval)$$

$$\frac{t \to t'}{t\ v \to t'\ v} \quad (e\text{-}app\text{-}eval)$$

$$\frac{}{\lambda\texttt{false()} \to \texttt{false}}\ (e\text{-}inv)$$

$$\frac{\dfrac{}{\lambda\lambda\texttt{true()} \to \lambda\texttt{true}}\ (e\text{-}inv)}{\lambda\lambda\texttt{true() true} \to \lambda\texttt{true true}}\ (e\text{-}app\text{-}eval)$$

$$\frac{}{\lambda\texttt{true true} \to \texttt{true}}\ (e\text{-}app)$$

$$(\texttt{(-> true)()},\ \frac{}{\lambda\texttt{true()} \to \texttt{true}}\ (e\text{-}inv)\ ,\ \mathit{Bool})$$