

$(\lambda F. \text{if True then } F \text{ zero else } F \text{ False})(\lambda X. \text{zero})$

$\bigwedge_{AP}$

$(\lambda F. \text{if True then } F \text{ zero else } F \text{ False}) \quad (\lambda X. \text{zero})$

$|_{ABS}$

$|_{ABS}$

8 if True then F zero else F False

zero

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5 True

6 F zero

7 F False

$\bigwedge_{AP}$

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1 F 2 zero

3 F 4 False

1)  $F : t_1 \vdash F : t_1$

2)  $\vdash \text{zero} : \text{Nat}$

3)  $F : t_2 \vdash F : t_2$

4)  $\vdash \text{False} : \text{Bool}$

5)  $\vdash \text{True} : \text{Bool}$

6)  $S = \text{mgu} \{ t_1 \doteq \text{Nat} \rightarrow t_3 \} = \{ t_1 \doteq \text{Nat} \rightarrow t_3 \}$

$F : \text{Nat} \rightarrow t_3 \vdash F \text{ zero} : t_3$

7)  $S = \text{mgu} \{ t_2 \doteq \text{Bool} \rightarrow t_4 \} = \{ t_2 \doteq \text{Bool} \rightarrow t_4 \}$

$F : \text{Bool} \rightarrow t_4 \vdash F \text{ False} : t_4$

8)  $S = \text{mgu} \{ \text{Bool} \doteq \text{Bool}, t_3 \doteq t_4, \text{Nat} \rightarrow t_3 \doteq \text{Bool} \rightarrow t_4 \}$

$= \text{mgu} \{ \text{Bool} \doteq \text{Bool}, t_3 \doteq t_4, \text{Nat} \doteq \text{Bool} \}$  decompose

$= \text{Falla por Clash}$