

ax 1.  $A \rightarrow (B \rightarrow A)$

A-

2.  $(A \rightarrow (B \rightarrow C)) \rightarrow ((A \rightarrow B) \rightarrow (A \rightarrow C))$

3.  $((A \rightarrow B) \rightarrow A) \rightarrow A$

Pierce

$(\neg B \rightarrow \neg A) \rightarrow (A \rightarrow B)$

4.  $\perp \rightarrow A$

Defin  $\perp$

$A \vee B$

$\exists A \rightarrow B$

2:

$A \rightarrow B$

$\frac{A}{B}$

$\lambda x (x \text{ trap})$

trap: garder le dernier element de la pile (son argument) et renvoyer.

$(A \rightarrow \perp) \vee A$

$A \vee B$

$(A \rightarrow \perp) \rightarrow B$

$[ (A \rightarrow \perp) \rightarrow \perp \rightarrow A ]$

$(A \vee B) \Leftrightarrow ((A \rightarrow \perp) \rightarrow B)$   $(A \rightarrow \perp)$

$(\subset \perp_1)$

$A \wedge B \rightarrow A$

$A \rightarrow A \vee B$

$A \wedge B \rightarrow B$

$B \rightarrow A \vee B$

$A \rightarrow (B \rightarrow A \wedge B)$

$(A \rightarrow C) \rightarrow ((B \rightarrow C) \rightarrow (A \vee B \rightarrow C))$

$\vdash$

$\vdash$

$A_1 \dots A_n \vdash B$

$\vdash (A_n \rightarrow B)$

$\vdash A \wedge B$

$A \vee (A \rightarrow \perp)$

$\vdash A$