

LOG - Mar 2015

$$(a) (1^{\circ}) f(g(x, y)) = f(z) \quad z \leftarrow g(x, y)$$

$$g(x, y) = z$$

$$A: p(f(g(x, y)), g(v, w), y)$$

$$B: p(f(g(x, y)), x, f(x))$$

$$(2^{\circ}) g(v, w) = x \quad x \leftarrow g(v, w)$$

$$A: p(f(g(g(v, w), y)), g(v, w), y)$$

$$B: p(f(g(g(v, w), y)), g(v, w), f(g(v, w)))$$

$$(3^{\circ}) y = f(g(v, w)) \quad y \leftarrow f(g(v, w))$$

$$p(f(g(g(v, w), f(g(v, w)))), g(v, w), f(g(v, w)))$$

$$(b) (1^{\circ}) x = u \quad u \leftarrow x$$

$$A: p(x, f(x), a) \quad B: p(x, w, w)$$

$$(2^{\circ}) f(x) = w \quad w \leftarrow f(x)$$

$$A: p(x, f(x), a) \quad B: p(x, f(x), f(a))$$

$$(3^{\circ}) f(x) = a \quad \in CH \in C$$

- $in(x)$ x est informaticien
- $jc(x)$ x joue à des jeux de console
- $d(x)$ x est dépendant
- $mi(x)$ x est inscrit en Math-Info
- $bp(x)$ x est bon programmeur

Énoncés CP1

- (i) $\forall x [in(x) \Rightarrow jc(x)]$
- (ii) $\forall x [(jc(x) \wedge \neg d(x)) \Rightarrow bp(x)]$
- (iii) $\forall x [mi(x) \Rightarrow \neg d(x)]$
- (iv) $\exists x [in(x) \wedge \neg bp(x)]$
- (v) $\exists x [\neg mi(x) \wedge jc(x)]$
- (vi) $\neg \exists x [mi(x) \vee \neg jc(x)]$

Skolem

- (1) $\neg in(a) \vee jc(a)$
- (2) $\neg jc(a) \vee d(a) \vee bp(a)$
- (3) $\neg mi(a) \vee \neg d(a)$
- (4a) $in(a)$
- (4b) $\neg bp(a)$
- (5) $mi(a) \vee \neg jc(a)$

RAV

$$\begin{array}{l} (4a) \quad m(a) \\ (1) \quad x \in a \quad \neg m(a) \vee jc(a) \end{array} \quad \Big| \text{cut} \quad jc(a) \quad (6)$$

$$\begin{array}{l} (6) \quad jc(a) \\ (5) \quad x \in a \quad mi(a) \vee \neg jc(a) \end{array} \quad \Big| \text{cut} \quad mi(a) \quad (7)$$

$$\begin{array}{l} (7) \quad mi(a) \\ (3) \quad x \in a \quad \neg mi(a) \vee \neg d(a) \end{array} \quad \Big| \text{cut} \quad \neg d(a) \quad (8)$$

$$\begin{array}{l} (8) \quad \neg d(a) \\ (2) \quad x \in a \quad \neg jc(a) \vee d(a) \vee bp(a) \end{array} \quad \Big| \text{cut} \quad \neg jc(a) \vee bp(a) \quad (9)$$

$$\begin{array}{l} (9) \quad \neg jc(a) \vee bp(a) \\ (6) \quad jc(a) \end{array} \quad \Big| \text{cut} \quad bp(a) \quad (10)$$

$$\begin{array}{l} (10) \quad bp(a) \\ (4b) \quad \neg bp(a) \end{array} \quad \Big| \text{cut} \quad \perp$$