Logiweb codex of problemone

Up Help

$* \Rightarrow *$, problemone, pred calc, pc1, pc2, pc3, pc4, pc5, pc6, pc7, pc8, pc9, pc10, pc11, pc12, pcmp, pcded, pcia, pcie, pcdeduction, trivia, iatest, andintro, andelim1, andelim2, orintro1, orintro2, orelim, notintro, notnotintro, notnotelim, mt, pbc, repeat, lem, $* \equiv *$, $* = *$, $\neg *$, $* \wedge *$, $* \vee *$, $\forall * \,.\, (*)$, $\exists * \,.\, (*)$, $* \in *$,

$* \Rightarrow *$

$[\mathsf{x} \Rightarrow \mathsf{y} \overset{\text{tex}}{\rightarrow}$ "#1. \Rightarrow #2."$]$

problemone

[problemone $\overset{\text{prio}}{\rightarrow}$
Preassociative
[problemone], [base], [bracket $*$ end bracket], [big bracket $*$ end bracket], [\$ $*$ \$], [**flush left** $(*)$], [x], [y], [z], [$[* \bowtie *]$], [$[* \overset{*}{\rightarrow} *]$], [pyk], [tex], [name], [prio], [$*$], [T], [if$(*,*,*)$], [$[* \overset{*}{\Rightarrow} *]$], [val], [claim], [$\bot$], [f$(*)$], [$(*)^{\mathrm{I}}$], [$\mathsf{F}$], [$\underline{0}$], [$\underline{1}$], [$\underline{2}$], [$\underline{3}$], [$\underline{4}$], [$\underline{5}$], [$\underline{6}$], [$\underline{7}$], [$\underline{8}$], [$\underline{9}$], [0], [1], [2], [3], [4], [5], [6], [7], [8], [9], [a], [b], [c], [d], [e], [f], [g], [h], [i], [j], [k], [l], [m], [n], [o], [p], [q], [r], [s], [t], [u], [v], [w], $[(*)^{\mathrm{M}}]$, [If$(*,*,*)$], [array$\{*\}$ $*$ end array], [l], [c], [r], [empty], [$\langle * \mid * := * \rangle$], [$\mathcal{M}(*)$], [$\tilde{\mathcal{U}}(*)$], [$\mathcal{U}(*)$], [$\mathcal{U}^{\mathrm{M}}(*)$], [**apply**$(*,*)$], [**apply**$_1(*,*)$], [identifier$(*)$], [identifier$_1(*,*)$], [array-plus$(*,*)$], [array-remove$(*,*,*)$], [array-put$(*,*,*,*)$], [array-add$(*,*,*,*,*)$], [bit$(*,*)$], [bit$_1(*,*)$], [rack], ["vector"], ["bibliography"], ["dictionary"], ["body"], ["codex"], ["expansion"], ["code"], ["cache"], ["diagnose"], ["pyk"], ["tex"], ["texname"], ["value"], ["message"], ["macro"], ["definition"], ["unpack"], ["claim"], ["priority"], ["lambda"], ["apply"], ["true"], ["if"], ["quote"], ["proclaim"], ["define"], ["introduce"], ["hide"], ["pre"], ["post"], [$\mathcal{E}(*,*,*)$], [$\mathcal{E}_2(*,*,*,*,*)$], [$\mathcal{E}_3(*,*,*,*)$], [$\mathcal{E}_4(*,*,*,*)$], [**lookup**$(*,*,*)$], [**abstract**$(*,*,*,*)$], [$\lceil * \rceil$], [$\mathcal{M}(*,*,*)$], [$\mathcal{M}_2(*,*,*,*)$], [$\mathcal{M}^*(*,*,*)$], [macro], [s_0], [**zip**$(*,*)$], [**assoc**$_1(*,*,*)$], $[(*)^{\mathbf{P}}]$, [self], [$[* \doteq *]$], [$[* \doteq *]$], [$[* \doteq *]$], [$[* \overset{\text{pyk}}{=} *]$], [$[* \overset{\text{tex}}{=} *]$], [$[* \overset{\text{name}}{=} *]$], [**Priority table**$[*]$], [$\tilde{\mathcal{M}}_1$], [$\tilde{\mathcal{M}}_2(*)$], [$\tilde{\mathcal{M}}_3(*)$], [$\tilde{\mathcal{M}}_4(*,*,*,*)$], [$\tilde{\mathcal{M}}(*,*,*)$], [$\tilde{\mathcal{Q}}(*,*,*)$], [$\tilde{\mathcal{Q}}_2(*,*,*)$], [$\tilde{\mathcal{Q}}_3(*,*,*,*)$], [$\tilde{\mathcal{Q}}^*(*,*,*)$], [$(*)$], [$(*)$], [display$(*)$], [statement$(*)$], [$[*]^{\cdot}$], [$[*]^{-}$], [**aspect**$(*,*)$], [**aspect**$(*,*,*)$], [$\langle * \rangle$], [**tuple**$_1(*)$], [**tuple**$_2(*)$], [let$_2(*,*)$], [let$_1(*,*)$], [$[* \overset{\text{claim}}{=} *]$], [checker], [**check**$(*,*)$], [**check**$_2(*,*,*)$], [**check**$_3(*,*,*)$], [**check**$^*(*,*)$], [**check**$^*_2(*,*,*)$], [$[*]^{\cdot}$], [$[*]^{-}$], [$[*]^{\circ}$], [msg], [$[* \overset{\text{msg}}{=} *]$], [<stmt>],

[stmt], [[$* \overset{\text{stmt}}{=} *$]], [HeadNil′], [HeadPair′], [Transitivity′], [$\perp\!\!\!\perp$], [Contra′], [T'_{E}], [L_1], [$\underline{*}$], [$\mathcal{A}$], [$\mathcal{B}$], [$\mathcal{C}$], [$\mathcal{D}$], [$\mathcal{E}$], [$\mathcal{F}$], [$\mathcal{G}$], [$\mathcal{H}$], [$\mathcal{I}$], [$\mathcal{J}$], [$\mathcal{K}$], [$\mathcal{L}$], [$\mathcal{M}$], [$\mathcal{N}$], [$\mathcal{O}$], [$\mathcal{P}$], [$\mathcal{Q}$], [$\mathcal{R}$], [$\mathcal{S}$], [$\mathcal{T}$], [$\mathcal{U}$], [$\mathcal{V}$], [$\mathcal{W}$], [$\mathcal{X}$], [$\mathcal{Y}$], [$\mathcal{Z}$], [$\langle * \mid * := * \rangle$], [$\langle {}^{*} * \mid * := * \rangle$], [$\emptyset$], [Remainder], [$(*)^{\mathbf{v}}$], [intro$(*,*,*,*)$], [intro$(*,*,*)$], [error$(*,*)$], [error$_2(*,*)$], [proof$(*,*,*)$], [proof$_2(*,*)$], [$\mathcal{S}(*,*)$], [$\mathcal{S}^{\mathrm{I}}(*,*)$], [$\mathcal{S}^{\triangleright}(*,*)$], [$\mathcal{S}_1^{\triangleright}(*,*,*)$], [$\mathcal{S}^{\mathrm{E}}(*,*)$], [$\mathcal{S}_1^{\mathrm{E}}(*,*,*)$], [$\mathcal{S}^{+}(*,*)$], [$\mathcal{S}_1^{+}(*,*,*)$], [$\mathcal{S}^{-}(*,*)$], [$\mathcal{S}_1^{-}(*,*,*)$], [$\mathcal{S}^{*}(*,*)$], [$\mathcal{S}_1^{*}(*,*,*)$], [$\mathcal{S}_2^{*}(*,*,*,*)$], [$\mathcal{S}^{@}(*,*)$], [$\mathcal{S}_1^{@}(*,*,*)$], [$\mathcal{S}^{\vdash}(*,*)$], [$\mathcal{S}_1^{\vdash}(*,*,*,*)$], [$\mathcal{S}^{\Vdash}(*,*)$], [$\mathcal{S}_1^{\Vdash}(*,*,*,*)$], [$\mathcal{S}^{\mathrm{i.e.}\cdot}(*,*)$], [$\mathcal{S}_1^{\mathrm{i.e.}\cdot}(*,*,*,*)$], [$\mathcal{S}_2^{\mathrm{i.e.}\cdot}(*,*,*,*,*)$], [$\mathcal{S}^{\forall}(*,*)$], [$\mathcal{S}_1^{\forall}(*,*,*,*)$], [$\mathcal{S}^{\cdot}(*,*)$], [$\mathcal{S}_1^{\cdot}(*,*,*)$], [$\mathcal{S}_2^{\cdot}(*,*,*,*)$], [$\mathcal{T}(*)$], [claims$(*,*,*)$], [claims$_2(*,*,*)$], [<proof>], [proof], [[**Lemma** $*$: $*$]], [[**Proof of** $*$: $*$]], [[$*$ **lemma** $*$: $*$]], [[$*$ **antilemma** $*$: $*$]], [[$*$ **rule** $*$: $*$]], [[$*$ **antirule** $*$: $*$]], [verifier], [$\mathcal{V}_1(*)$], [$\mathcal{V}_2(*,*)$], [$\mathcal{V}_3(*,*,*,*)$], [$\mathcal{V}_4(*,*)$], [$\mathcal{V}_5(*,*,*,*)$], [$\mathcal{V}_6(*,*,*,*)$], [$\mathcal{V}_7(*,*,*,*)$], [Cut$(*,*)$], [Head$_{\oplus}(*)$], [Tail$_{\oplus}(*)$], [rule$_1(*,*)$], [rule$(*,*)$], [Rule tactic], [Plus$(*,*)$], [[**Theory** $*$]], [theory$_2(*,*)$], [theory$_3(*,*)$], [theory$_4(*,*,*)$], [HeadNil″], [HeadPair″], [Transitivity″], [Contra″], [HeadNil], [HeadPair], [Transitivity], [Contra], [T_{E}], [ragged right], [ragged right expansion], [parm$(*,*,*)$], [parm$^*(*,*,*)$], [inst$(*,*)$], [inst$^*(*,*)$], [occur$(*,*,*)$], [occur$^*(*,*,*)$], [unify$(*=*,*)$], [unify$^*(*=*,*)$], [unify$_2(*=*,*)$], [$\mathrm{L_a}$], [$\mathrm{L_b}$], [$\mathrm{L_c}$], [$\mathrm{L_d}$], [$\mathrm{L_e}$], [$\mathrm{L_f}$], [$\mathrm{L_g}$], [$\mathrm{L_h}$], [$\mathrm{L_i}$], [$\mathrm{L_j}$], [$\mathrm{L_k}$], [$\mathrm{L_l}$], [$\mathrm{L_m}$], [$\mathrm{L_n}$], [$\mathrm{L_o}$], [$\mathrm{L_p}$], [$\mathrm{L_q}$], [$\mathrm{L_r}$], [$\mathrm{L_s}$], [$\mathrm{L_t}$], [$\mathrm{L_u}$], [$\mathrm{L_v}$], [$\mathrm{L_w}$], [$\mathrm{L_x}$], [$\mathrm{L_y}$], [$\mathrm{L_z}$], [$\mathrm{L_A}$], [$\mathrm{L_B}$], [$\mathrm{L_C}$], [$\mathrm{L_D}$], [$\mathrm{L_E}$], [$\mathrm{L_F}$], [$\mathrm{L_G}$], [$\mathrm{L_H}$], [$\mathrm{L_I}$], [$\mathrm{L_J}$], [$\mathrm{L_K}$], [$\mathrm{L_L}$], [$\mathrm{L_M}$], [$\mathrm{L_N}$], [$\mathrm{L_O}$], [$\mathrm{L_P}$], [$\mathrm{L_Q}$], [$\mathrm{L_R}$], [$\mathrm{L_S}$], [$\mathrm{L_T}$], [$\mathrm{L_U}$], [$\mathrm{L_V}$], [$\mathrm{L_W}$], [$\mathrm{L_X}$], [$\mathrm{L_Y}$], [$\mathrm{L_Z}$], [$\mathrm{L_?}$], [Reflexivity], [Reflexivity$_1$], [Commutativity], [Commutativity$_1$], [<tactic>], [tactic], [[$* \overset{\text{tactic}}{=} *$]], [$\mathcal{P}(*,*,*)$], [$\mathcal{P}^*(*,*,*)$], [$\mathrm{p}_0$], [conclude$_1(*,*)$], [conclude$_2(*,*,*)$], [conclude$_3(*,*,*,*)$], [conclude$_4(*,*)$], [check], [[$* \overset{\circ}{=} *$]], [RootVisible$(*)$], [A], [R], [C], [T], [L], [$\{*\}$], [$\overline{*}$], [a], [b], [c], [d], [e], [f], [g], [h], [i], [j], [k], [l], [m], [n], [o], [p], [q], [r], [s], [t], [u], [v], [w], [x], [y], [z], [$\langle * \equiv * \mid * := * \rangle$], [$\langle * \equiv^0 * \mid * := * \rangle$], [$\langle * \equiv^1 * \mid * := * \rangle$], [$\langle * \equiv^* * \mid * := * \rangle$], [Ded$(*,*)$], [Ded$_0(*,*)$], [Ded$_1(*,*,*)$], [Ded$_2(*,*,*)$], [Ded$_3(*,*,*,*)$], [Ded$_4(*,*,*,*)$], [Ded$_4^*(*,*,*,*)$], [Ded$_5(*,*,*)$], [Ded$_6(*,*,*,*)$], [Ded$_6^*(*,*,*,*)$], [Ded$_7(*)$], [Ded$_8(*,*)$], [Ded$_8^*(*,*)$], [S], [Neg], [MP], [Gen], [Ded], [S1], [S2], [S3], [S4], [S5], [S6], [S7], [S8], [S9], [Repetition], [A1′], [A2′], [A4′], [A5′], [Prop 3.2a], [Prop 3.2b], [Prop 3.2c], [Prop 3.2d], [Prop 3.2e$_1$], [Prop 3.2e$_2$], [Prop 3.2e], [Prop 3.2f$_1$], [Prop 3.2f$_2$], [Prop 3.2f], [Prop 3.2g$_1$], [Prop 3.2g$_2$], [Prop 3.2g], [Prop 3.2h$_1$], [Prop 3.2h$_2$], [Prop 3.2h], [Block$_1(*,*,*)$], [Block$_2(*)$], [pred calc], [pc1], [pc2], [pc3], [pc4], [pc5], [pc6], [pc7], [pc8], [pc9], [pc10], [pc11], [pc12], [pcmp], [pcded], [pcia], [pcie], [pcdeduction], [trivia], [iatest], [andintro], [andelim1], [andelim2], [orintro1], [orintro2], [orelim], [notintro], [notnotintro], [notnotelim], [mt], [pbc], [repeat], [lem];

Preassociative

[$*$-{$*$}], [$*$/indexintro$(*,*,*,*)$], [$*$/intro$(*,*,*)$], [$*$/bothintro$(*,*,*,*,*)$], [$*$/nameintro$(*,*,*,*)$], [$*'$], [$*[\,*\,]$], [$*[*\rightarrow*]$], [$*[*\Rightarrow*]$], [$*0$], [$*1$], [0b], [$*$-color$(*)$], [$*$-color$^*(*)$], [$*^{\mathrm{H}}$], [$*^{\mathrm{T}}$], [$*^{\mathrm{U}}$], [$*^{\mathrm{h}}$], [$*^{\mathrm{t}}$], [$*^{\mathrm{s}}$], [$*^{\mathrm{c}}$], [$*^{\mathrm{d}}$], [$*^{\mathrm{a}}$], [$*^{\mathrm{C}}$], [$*^{\mathrm{M}}$], [$*^{\mathrm{B}}$], [$*^{\mathrm{r}}$], [$*^{\mathrm{i}}$], [$*^{\mathrm{d}}$], [$*^{\mathrm{R}}$], [$*^0$], [$*^1$], [$*^2$], [$*^3$], [$*^4$], [$*^5$], [$*^6$], [$*^7$], [$*^8$], [$*^9$], [$*^{\mathrm{E}}$], [$*^{\mathcal{V}}$], [$*^{\mathcal{C}}$], [$*^{\mathcal{C}^*}$], [$*^{\mathrm{hide}}$];

Preassociative

[“ ∗ ”], [], [(∗)$^{\mathbf{t}}$], [string(∗) + ∗], [string(∗) ++ ∗], [
∗], [∗], [!∗], ["∗], [#∗], [$∗], [%∗], [&∗], ['∗], [(∗], [)∗], [∗∗], [+∗], [, ∗], [-∗], [.∗], [/∗],
[0∗], [1∗], [2∗], [3∗], [4∗], [5∗], [6∗], [7∗], [8∗], [9∗], [:∗], [; ∗], [<∗], [=∗], [>∗], [?∗],
[@∗], [A∗], [B∗], [C∗], [D∗], [E∗], [F∗], [G∗], [H∗], [I∗], [J∗], [K∗], [L∗], [M∗], [N∗],
[O∗], [P∗], [Q∗], [R∗], [S∗], [T∗], [U∗], [V∗], [W∗], [X∗], [Y∗], [Z∗], [[∗], [\∗], []∗], [ˆ ∗],
[_∗], [‘∗], [a∗], [b∗], [c∗], [d∗], [e∗], [f∗], [g∗], [h∗], [i∗], [j∗], [k∗], [l∗], [m∗], [n∗], [o∗],
[p∗], [q∗], [r∗], [s∗], [t∗], [u∗], [v∗], [w∗], [x∗], [y∗], [z∗], [{∗], [|∗], [}∗], [˜∗],
[**Preassociative** ∗; ∗], [**Postassociative** ∗; ∗], [[∗], ∗], [priority ∗ end],
[newline ∗], [macro newline ∗], [MacroIndent(∗)];
Preassociative
[∗ ’ ∗], [∗ ‘ ∗];
Preassociative
[∗′];
Preassociative
[∗ ’ ∗], [∗ ‘ ∗];
Preassociative
[∗ · ∗], [∗ ·$_0$ ∗];
Preassociative
[∗ + ∗], [∗ +$_0$ ∗], [∗ +$_1$ ∗], [∗ − ∗], [∗ −$_0$ ∗], [∗ −$_1$ ∗];
Preassociative
[∗ ∪ {∗}], [∗ ∪ ∗], [∗\{∗}];
Postassociative
[∗ ∴ ∗], [∗ $\underline{\therefore}$ ∗], [∗ $\underline{::}$ ∗], [∗ $\underline{+2*}$ ∗], [∗ : : ∗], [∗ +2∗ ∗];
Postassociative
[∗, ∗];
Preassociative
[∗ $\overset{\mathrm{B}}{\approx}$ ∗], [∗ $\overset{\mathrm{D}}{\approx}$ ∗], [∗ $\overset{\mathrm{C}}{\approx}$ ∗], [∗ $\overset{\mathrm{P}}{\approx}$ ∗], [∗ ≈ ∗], [∗ = ∗], [∗ $\overset{+}{\to}$ ∗], [∗ $\overset{\mathrm{t}}{=}$ ∗], [∗ $\overset{\mathrm{t}^*}{=}$ ∗], [∗ $\overset{\mathrm{r}}{=}$ ∗],
[∗ ∈$_{\mathrm{t}}$ ∗], [∗ ⊆$_{\mathrm{T}}$ ∗], [∗ $\overset{\mathrm{T}}{=}$ ∗], [∗ $\overset{\mathrm{s}}{=}$ ∗], [∗ free in ∗], [∗ free in* ∗], [∗ free for ∗ in ∗],
[∗ free for* ∗ in ∗], [∗ ∈$_{\mathrm{c}}$ ∗], [∗ < ∗], [∗ <′ ∗], [∗ ≤′ ∗], [∗ = ∗], [∗ ≠ ∗], [∗$^{\mathrm{var}}$],
[∗#^{0}∗], [∗#^{1}∗], [∗#*∗], [∗ ≡ ∗], [∗ = ∗];
Preassociative
[¬∗], [¬∗];
Preassociative
[∗ ∧ ∗], [∗ $\ddot{\wedge}$ ∗], [∗ $\tilde{\wedge}$ ∗], [∗ ∧$_{\mathrm{c}}$ ∗], [∗ ∧ ∗];
Preassociative
[∗ ∨ ∗], [∗ ∥ ∗], [∗ $\ddot{\vee}$ ∗], [∗ ∨ ∗];
Preassociative
[∃∗: ∗], [∀∗: ∗], [∀$_{\mathrm{obj}}$∗: ∗], [∀ ∗ . (∗)], [∃ ∗ . (∗)];
Postassociative
[∗ $\Rrightarrow$ ∗], [∗ ⇒ ∗], [∗ ⇔ ∗];
Postassociative
[∗ : ∗], [∗ spy ∗], [∗!∗];
Preassociative
[∗ $\left\{ \begin{array}{c} * \\ * \end{array} \right.$];

Preassociative
$[\lambda * .*], [\Lambda * .*], [\Lambda *], [\textbf{if } * \textbf{ then } * \textbf{ else } *], [\textbf{let } * = * \textbf{ in } *], [\textbf{let } * \doteq * \text{ in } *];$
Preassociative
$[*\#*];$
Preassociative
$[*^{\mathrm{I}}], [*^{\triangleright}], [*^{\mathrm{V}}], [*^{+}], [*^{-}], [*^{*}];$
Preassociative
$[* \mathbin{@} *], [* \rhd *], [* \blacktriangleright *], [* \gg *], [* \trianglerighteq *];$
Postassociative
$[* \vdash *], [* \Vdash *], [* \text{ i.e. } *];$
Preassociative
$[\forall *\colon *], [\Pi *\colon *];$
Postassociative
$[* \oplus *];$
Postassociative
$[*; *];$
Preassociative
$[* \text{ proves } *];$
Preassociative
$[* \textbf{ proof of } * : *], [\text{Line } * : * \gg *; *], [\text{Last line } * \gg * \,\square],$
$[\text{Line } * : \text{Premise} \gg *; *], [\text{Line } * : \text{Side-condition} \gg *; *], [\text{Arbitrary} \gg *; *],$
$[\text{Local} \gg * = *; *], [\text{Begin} *; * : \text{End}; *], [\text{Last block line } * \gg * ;],$
$[\text{Arbitrary} \gg *; *];$
Postassociative
$[* \mid *];$
Postassociative
$[* \text{ , } *], [*[*]*];$
Preassociative
$[*\&*], [\rightarrow];$
Preassociative
$[*\backslash\backslash*], [* \text{ linebreak}[4] *], [*\backslash\backslash*];$
Preassociative
$[* \in *];]$

$[\text{problemone} \overset{\text{pyk}}{\rightarrow} \text{“problemone”}]$

pred calc

$[\text{pred calc} \overset{\text{stmt}}{\rightarrow} \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \wedge \underline{g} \Rightarrow \underline{f} \oplus \forall \underline{f}\colon \neg\neg \underline{f} \Rightarrow \underline{f} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{h}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \Rightarrow \underline{g} \Rightarrow$
$\underline{h} \Rightarrow \underline{f} \Rightarrow \underline{h} \oplus \forall \underline{x}\colon \forall \underline{r}\colon \forall \underline{g}\colon \forall \underline{f}\colon \langle \lceil \underline{h} \rceil \equiv^{0} \lceil \underline{f} \rceil \,||\, \lceil \underline{x} \rceil := \lceil \underline{r} \rceil \rangle \Vdash \underline{h} \Rightarrow \exists \underline{x}.\, (\underline{f}) \oplus \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow$
$\underline{f} \vee \underline{g} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{h}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{h} \Rightarrow \underline{g} \Rightarrow \underline{f} \vee \underline{h} \Rightarrow \underline{g} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{x}\colon \lceil \underline{x} \rceil \#^{0} \lceil \underline{g} \rceil \Vdash \underline{f} \Rightarrow \underline{g} \vdash$
$\exists \underline{x}.\, (\underline{f}) \Rightarrow \underline{g} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{f} \Rightarrow \underline{g} \vdash \underline{g} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \vee \underline{f} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \Rightarrow$
$\neg \underline{g} \Rightarrow \neg \underline{f} \oplus \forall \underline{a}\colon \forall \underline{b}\colon \lambda x. \mathrm{Ded}_0(\lceil \underline{a} \rceil, \lceil \underline{b} \rceil) \Vdash \underline{a} \vdash \underline{b} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \oplus$
$\forall \underline{x}\colon \forall \underline{r}\colon \forall \underline{g}\colon \forall \underline{f}\colon \langle \lceil \underline{h} \rceil \equiv^{0} \lceil \underline{f} \rceil \,||\, \lceil \underline{x} \rceil := \lceil \underline{r} \rceil \rangle \Vdash \forall \underline{x}.\, (\underline{f}) \Rightarrow \underline{h} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \wedge \underline{g} \oplus$

$\forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \wedge \underline{g} \Rightarrow \underline{g} \oplus \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{x}\colon \lceil \underline{x} \rceil \#^0 \lceil \underline{g} \rceil \Vdash \underline{g} \Rightarrow \underline{f} \vdash \underline{g} \Rightarrow \forall \underline{x}.\, (\underline{f})]$

[pred calc $\overset{\text{pyk}}{\rightarrow}$ "pred calc"]

pc1

[pc1 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc1 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f}$]

[pc1 $\overset{\text{pyk}}{\rightarrow}$ "pc1"]

pc2

[pc2 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc2 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{h}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{h} \Rightarrow \underline{f} \Rightarrow \underline{h}$]

[pc2 $\overset{\text{pyk}}{\rightarrow}$ "pc2"]

pc3

[pc3 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc3 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \wedge \underline{g}$]

[pc3 $\overset{\text{pyk}}{\rightarrow}$ "pc3"]

pc4

[pc4 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc4 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{f} \vee \underline{g}$]

[pc4 $\overset{\text{pyk}}{\rightarrow}$ "pc4"]

pc5

[pc5 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc5 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \vee \underline{f}$]

[pc5 $\overset{\text{pyk}}{\rightarrow}$ “pc5”]

pc6

[pc6 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc6 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \wedge \underline{g} \Rightarrow \underline{f}$]

[pc6 $\overset{\text{pyk}}{\rightarrow}$ “pc6”]

pc7

[pc7 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc7 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \wedge \underline{g} \Rightarrow \underline{g}$]

[pc7 $\overset{\text{pyk}}{\rightarrow}$ “pc7”]

pc8

[pc8 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc8 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{h}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{h} \Rightarrow \underline{g} \Rightarrow \underline{f} \vee \underline{h} \Rightarrow \underline{g}$]

[pc8 $\overset{\text{pyk}}{\rightarrow}$ “pc8”]

pc9

[pc9 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc9 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \Rightarrow \neg \underline{g} \Rightarrow \neg \underline{f}$]

[pc9 $\overset{\text{pyk}}{\rightarrow}$ “pc9”]

pc10

[pc10 $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pc10 $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \neg\neg \underline{f} \Rightarrow \underline{f}$]

[pc10 $\overset{\text{pyk}}{\rightarrow}$ “pc10”]

pc11

$[\mathrm{pc11} \overset{\mathrm{proof}}{\longrightarrow} \text{Rule tactic}]$

$[\mathrm{pc11} \overset{\mathrm{stmt}}{\longrightarrow} \text{pred calc} \vdash \forall \underline{x}\colon \forall \underline{r}\colon \forall \underline{g}\colon \forall \underline{f}\colon \langle \lceil \underline{h} \rceil \equiv^0 \lceil \underline{f} \rceil \| \lceil \underline{x} \rceil := \lceil \underline{r} \rceil \rangle \Vdash \forall \underline{x}.\, (\underline{f}) \Rightarrow \underline{h}]$

$[\mathrm{pc11} \overset{\mathrm{pyk}}{\longrightarrow} \text{“pc11”}]$

pc12

$[\mathrm{pc12} \overset{\mathrm{proof}}{\longrightarrow} \text{Rule tactic}]$

$[\mathrm{pc12} \overset{\mathrm{stmt}}{\longrightarrow} \text{pred calc} \vdash \forall \underline{x}\colon \forall \underline{r}\colon \forall \underline{g}\colon \forall \underline{f}\colon \langle \lceil \underline{h} \rceil \equiv^0 \lceil \underline{f} \rceil \| \lceil \underline{x} \rceil := \lceil \underline{r} \rceil \rangle \Vdash \underline{h} \Rightarrow \exists \underline{x}.\, (\underline{f})]$

$[\mathrm{pc12} \overset{\mathrm{pyk}}{\longrightarrow} \text{“pc12”}]$

pcmp

$[\mathrm{pcmp} \overset{\mathrm{proof}}{\longrightarrow} \text{Rule tactic}]$

$[\mathrm{pcmp} \overset{\mathrm{stmt}}{\longrightarrow} \text{pred calc} \vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{f} \Rightarrow \underline{g} \vdash \underline{g}]$

$[\mathrm{pcmp} \overset{\mathrm{pyk}}{\longrightarrow} \text{“pcmp”}]$

pcded

$[\mathrm{pcded} \overset{\mathrm{proof}}{\longrightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{g} \vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{f} \vdash \underline{g} \rhd \underline{f} \gg \underline{g}; \text{pcdeduction} \rhd \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{g} \gg \underline{f} \Rightarrow \underline{g} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{pcded} \overset{\mathrm{stmt}}{\longrightarrow} \text{pred calc} \vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{g} \vdash \underline{f} \Rightarrow \underline{g}]$

$[\mathrm{pcded} \overset{\mathrm{pyk}}{\longrightarrow} \text{“pcded”}]$

pcia

$[\mathrm{pcia} \overset{\mathrm{proof}}{\longrightarrow} \text{Rule tactic}]$

$[\mathrm{pcia} \overset{\mathrm{stmt}}{\longrightarrow} \text{pred calc} \vdash \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{x}\colon \lceil \underline{x} \rceil \#^0 \lceil \underline{g} \rceil \Vdash \underline{g} \Rightarrow \underline{f} \vdash \underline{g} \Rightarrow \forall \underline{x}.\, (\underline{f})]$

$[\mathrm{pcia} \overset{\mathrm{pyk}}{\longrightarrow} \text{“pcia”}]$

pcie

[pcie $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pcie $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \forall \underline{x}\colon \lceil \underline{x} \rceil \#^0 \lceil \underline{g} \rceil \Vdash \underline{f} \Rightarrow \underline{g} \vdash \exists \underline{x}.\, (\underline{f}) \Rightarrow \underline{g}$]

[pcie $\overset{\text{pyk}}{\rightarrow}$ “pcie”]

pcdeduction

[pcdeduction $\overset{\text{proof}}{\rightarrow}$ Rule tactic]

[pcdeduction $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{a}\colon \forall \underline{b}\colon \lambda \mathsf{x}.\mathrm{Ded}_0(\lceil \underline{a} \rceil, \lceil \underline{b} \rceil) \Vdash \underline{a} \vdash \underline{b}$]

[pcdeduction $\overset{\text{pyk}}{\rightarrow}$ “pcdeduction”]

trivia

[trivia $\overset{\text{proof}}{\rightarrow}$ $\lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil$pred calc $\vdash \forall \underline{f}\colon \mathrm{pc2} \gg \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f}; \mathrm{pc1} \gg \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f}; \mathrm{pcmp} \rhd \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \rhd \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \gg \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f}; \mathrm{pc1} \gg \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f}; \mathrm{pcmp} \rhd \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \rhd \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \Rightarrow \underline{f} \gg \underline{f} \Rightarrow \underline{f} \rceil, \mathrm{p}_0, \mathsf{c})$]

[trivia $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \underline{f} \Rightarrow \underline{f}$]

[trivia $\overset{\text{pyk}}{\rightarrow}$ “trivia”]

iatest

[iatest $\overset{\text{proof}}{\rightarrow}$ $\lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil$pred calc $\vdash \forall \underline{g}\colon \forall \underline{y}\colon \lceil \underline{y} \rceil \#^0 \lceil \underline{g} \rceil \Vdash \mathrm{pc1} \gg \underline{g} \Rightarrow \underline{y} \Rightarrow \underline{g}; \mathrm{pcia} \Rrightarrow \lceil \underline{y} \rceil \#^0 \lceil \underline{g} \rceil \rhd \underline{g} \Rightarrow \underline{y} \Rightarrow \underline{g} \gg \underline{g} \Rightarrow \forall \underline{y}.\, (\underline{y} \Rightarrow \underline{g}) \rceil, \mathrm{p}_0, \mathsf{c})$]

[iatest $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{g}\colon \forall \underline{y}\colon \lceil \underline{y} \rceil \#^0 \lceil \underline{g} \rceil \Vdash \underline{g} \Rightarrow \forall \underline{y}.\, (\underline{y} \Rightarrow \underline{g})$]

[iatest $\overset{\text{pyk}}{\rightarrow}$ “iatest”]

andintro

[andintro $\overset{\text{proof}}{\rightarrow}$ $\lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil$pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{g} \vdash \mathrm{pc3} \gg \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \wedge \underline{g}; \mathrm{pcmp} \rhd \underline{f} \rhd \underline{f} \Rightarrow \underline{g} \Rightarrow \underline{f} \wedge \underline{g} \gg \underline{g} \Rightarrow \underline{f} \wedge \underline{g}; \mathrm{pcmp} \rhd \underline{g} \rhd \underline{g} \Rightarrow \underline{f} \wedge \underline{g} \gg \underline{f} \wedge \underline{g} \rceil, \mathrm{p}_0, \mathsf{c})$]

[andintro $\overset{\text{stmt}}{\rightarrow}$ pred calc $\vdash \forall \underline{f}\colon \forall \underline{g}\colon \underline{f} \vdash \underline{g} \vdash \underline{f} \wedge \underline{g}$]

$[\text{andintro} \overset{\text{pyk}}{\to} \text{“andintro”}]$

andelim1

$[\text{andelim1} \overset{\text{proof}}{\to} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \vdash \text{pc6} \gg \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{f}}; \text{pcmp} \rhd \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \rhd \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{f}} \gg \underline{\mathsf{f}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\text{andelim1} \overset{\text{stmt}}{\to} \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \vdash \underline{\mathsf{f}}]$

$[\text{andelim1} \overset{\text{pyk}}{\to} \text{“andelim1”}]$

andelim2

$[\text{andelim2} \overset{\text{proof}}{\to} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \vdash \text{pc7} \gg \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{g}}; \text{pcmp} \rhd \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \rhd \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{g}} \gg \underline{\mathsf{g}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\text{andelim2} \overset{\text{stmt}}{\to} \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \wedge \underline{\mathsf{g}} \vdash \underline{\mathsf{g}}]$

$[\text{andelim2} \overset{\text{pyk}}{\to} \text{“andelim2”}]$

orintro1

$[\text{orintro1} \overset{\text{proof}}{\to} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \vdash \text{pc4} \gg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}}; \text{pcmp} \rhd \underline{\mathsf{f}} \rhd \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \gg \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\text{orintro1} \overset{\text{stmt}}{\to} \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \vdash \underline{\mathsf{f}} \vee \underline{\mathsf{g}}]$

$[\text{orintro1} \overset{\text{pyk}}{\to} \text{“orintro1”}]$

orintro2

$[\text{orintro2} \overset{\text{proof}}{\to} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{g}} \vdash \text{pc5} \gg \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}}; \text{pcmp} \rhd \underline{\mathsf{g}} \rhd \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \gg \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\text{orintro2} \overset{\text{stmt}}{\to} \text{pred calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{g}} \vdash \underline{\mathsf{f}} \vee \underline{\mathsf{g}}]$

$[\text{orintro2} \overset{\text{pyk}}{\to} \text{“orintro2”}]$

orelim

$[\mathrm{orelim} \overset{\mathrm{proof}}{\longrightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \forall \underline{\mathsf{h}}\colon \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \vdash \underline{\mathsf{f}} \vdash \underline{\mathsf{h}} \vdash \underline{\mathsf{g}} \vdash \underline{\mathsf{h}} \vdash \mathrm{pcded} \rhd \underline{\mathsf{f}} \vdash \underline{\mathsf{h}} \gg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{h}}; \mathrm{pcded} \rhd \underline{\mathsf{g}} \vdash \underline{\mathsf{h}} \gg \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}}; \mathrm{pc8} \gg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{h}} \Rightarrow \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}}; \mathrm{pcmp} \rhd \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{h}} \rhd \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{h}} \Rightarrow \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \gg \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}}; \mathrm{pcmp} \rhd \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \rhd \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \Rightarrow \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \gg \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}}; \mathrm{pcmp} \rhd \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \rhd \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{h}} \gg \underline{\mathsf{h}} \rfloor, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{orelim} \overset{\mathrm{stmt}}{\longrightarrow} \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \forall \underline{\mathsf{h}}\colon \underline{\mathsf{f}} \vee \underline{\mathsf{g}} \vdash \underline{\mathsf{f}} \vdash \underline{\mathsf{h}} \vdash \underline{\mathsf{g}} \vdash \underline{\mathsf{h}} \vdash \underline{\mathsf{h}}]$

$[\mathrm{orelim} \overset{\mathrm{pyk}}{\longrightarrow} \text{“orelim”}]$

notintro

$[\mathrm{notintro} \overset{\mathrm{proof}}{\longrightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \vdash \underline{\mathsf{g}} \vdash \underline{\mathsf{f}} \vdash \neg \underline{\mathsf{g}} \vdash \mathrm{pcded} \rhd \underline{\mathsf{f}} \vdash \underline{\mathsf{g}} \gg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{g}}; \mathrm{pcded} \rhd \underline{\mathsf{f}} \vdash \neg \underline{\mathsf{g}} \gg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{g}}; \mathrm{pc9} \gg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{g}} \Rightarrow \neg \underline{\mathsf{f}}; \mathrm{pcmp} \rhd \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{g}} \rhd \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{g}} \Rightarrow \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{g}} \Rightarrow \neg \underline{\mathsf{f}} \gg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{g}} \Rightarrow \neg \underline{\mathsf{f}}; \mathrm{pcmp} \rhd \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{g}} \rhd \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{g}} \Rightarrow \neg \underline{\mathsf{f}} \gg \neg \underline{\mathsf{f}} \rfloor, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{notintro} \overset{\mathrm{stmt}}{\longrightarrow} \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \forall \underline{\mathsf{g}}\colon \underline{\mathsf{f}} \vdash \underline{\mathsf{g}} \vdash \underline{\mathsf{f}} \vdash \neg \underline{\mathsf{g}} \vdash \neg \underline{\mathsf{f}}]$

$[\mathrm{notintro} \overset{\mathrm{pyk}}{\longrightarrow} \text{“notintro”}]$

notnotintro

$[\mathrm{notnotintro} \overset{\mathrm{proof}}{\longrightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \underline{\mathsf{f}} \vdash \forall \underline{\mathsf{f}}\colon \underline{\mathsf{f}} \vdash \neg \underline{\mathsf{f}} \vdash \mathrm{repeat} \rhd \underline{\mathsf{f}} \gg \underline{\mathsf{f}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathsf{f}}\colon \underline{\mathsf{f}} \vdash \neg \underline{\mathsf{f}} \vdash \underline{\mathsf{f}} \gg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}}; \mathrm{pcmp} \rhd \underline{\mathsf{f}} \rhd \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \gg \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}}; \mathrm{trivia} \gg \neg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}}; \mathrm{pc9} \gg \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \neg \neg \underline{\mathsf{f}}; \mathrm{pcmp} \rhd \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \rhd \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \neg \neg \underline{\mathsf{f}} \gg \neg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \neg \neg \underline{\mathsf{f}}; \mathrm{pcmp} \rhd \neg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \rhd \neg \underline{\mathsf{f}} \Rightarrow \neg \underline{\mathsf{f}} \Rightarrow \neg \neg \underline{\mathsf{f}} \gg \neg \neg \underline{\mathsf{f}} \rfloor, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{notnotintro} \overset{\mathrm{stmt}}{\longrightarrow} \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \underline{\mathsf{f}} \vdash \neg \neg \underline{\mathsf{f}}]$

$[\mathrm{notnotintro} \overset{\mathrm{pyk}}{\longrightarrow} \text{“notnotintro”}]$

notnotelim

$[\mathrm{notnotelim} \overset{\mathrm{proof}}{\longrightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \neg \neg \underline{\mathsf{f}} \vdash \mathrm{pc10} \gg \neg \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}}; \mathrm{pcmp} \rhd \neg \neg \underline{\mathsf{f}} \rhd \neg \neg \underline{\mathsf{f}} \Rightarrow \underline{\mathsf{f}} \gg \underline{\mathsf{f}} \rfloor, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{notnotelim} \overset{\mathrm{stmt}}{\longrightarrow} \mathrm{pred\ calc} \vdash \forall \underline{\mathsf{f}}\colon \neg \neg \underline{\mathsf{f}} \vdash \underline{\mathsf{f}}]$

$[\mathrm{notnotelim} \overset{\mathrm{pyk}}{\longrightarrow} \text{“notnotelim”}]$

mt

$[\mathrm{mt} \overset{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \underline{\mathrm{f}} \Rightarrow \underline{\mathrm{g}} \vdash \neg \underline{\mathrm{g}} \vdash \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \underline{\mathrm{f}} \vdash \mathrm{pcmp} \rhd \underline{\mathrm{f}} \rhd \underline{\mathrm{f}} \Rightarrow \underline{\mathrm{g}} \gg \underline{\mathrm{g}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \underline{\mathrm{f}} \vdash \underline{\mathrm{g}} \gg \underline{\mathrm{f}} \vdash \underline{\mathrm{g}}; \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \underline{\mathrm{f}} \vdash \mathrm{repeat} \rhd \neg \underline{\mathrm{g}} \gg \neg \underline{\mathrm{g}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{g}} \gg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{g}}; \mathrm{notintro} \rhd \underline{\mathrm{f}} \vdash \underline{\mathrm{g}} \rhd \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{g}} \gg \neg \underline{\mathrm{f}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{mt} \overset{\mathrm{stmt}}{\rightarrow} \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \underline{\mathrm{f}} \Rightarrow \underline{\mathrm{g}} \vdash \neg \underline{\mathrm{g}} \vdash \neg \underline{\mathrm{f}}]$

$[\mathrm{mt} \overset{\mathrm{pyk}}{\rightarrow} \text{“mt”}]$

pbc

$[\mathrm{pbc} \overset{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \neg \underline{\mathrm{f}} \vdash \underline{\mathrm{g}} \vdash \neg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{g}} \vdash \mathrm{notintro} \rhd \neg \underline{\mathrm{f}} \vdash \underline{\mathrm{g}} \rhd \neg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{g}} \gg \neg \neg \underline{\mathrm{f}}; \mathrm{notnotelim} \rhd \neg \neg \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{pbc} \overset{\mathrm{stmt}}{\rightarrow} \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{g}}\colon \neg \underline{\mathrm{f}} \vdash \underline{\mathrm{g}} \vdash \neg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{g}} \vdash \underline{\mathrm{f}}]$

$[\mathrm{pbc} \overset{\mathrm{pyk}}{\rightarrow} \text{“pbc”}]$

repeat

$[\mathrm{repeat} \overset{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vdash \mathrm{trivia} \gg \underline{\mathrm{f}} \Rightarrow \underline{\mathrm{f}}; \mathrm{pcmp} \rhd \underline{\mathrm{f}} \rhd \underline{\mathrm{f}} \Rightarrow \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{repeat} \overset{\mathrm{stmt}}{\rightarrow} \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vdash \underline{\mathrm{f}}]$

$[\mathrm{repeat} \overset{\mathrm{pyk}}{\rightarrow} \text{“repeat”}]$

lem

$[\mathrm{lem} \overset{\mathrm{proof}}{\rightarrow} \lambda \mathsf{c}.\lambda \mathsf{x}.\mathcal{P}(\lceil \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \forall \underline{\mathrm{f}}\colon \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vdash \mathrm{orintro1} \rhd \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vdash \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \vdash \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vdash \mathrm{repeat} \rhd \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{notintro} \rhd \underline{\mathrm{f}} \vdash \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \rhd \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \neg \underline{\mathrm{f}}; \mathrm{orintro2} \rhd \neg \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathrm{f}}\colon \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \forall \underline{\mathrm{f}}\colon \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \mathrm{repeat} \rhd \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{pcdeduction} \rhd \forall \underline{\mathrm{f}}\colon \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{notintro} \rhd \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \rhd \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \vdash \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \neg \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}; \mathrm{notnotelim} \rhd \neg \neg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \gg \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}} \rceil, \mathrm{p}_0, \mathsf{c})]$

$[\mathrm{lem} \overset{\mathrm{stmt}}{\rightarrow} \text{pred calc} \vdash \forall \underline{\mathrm{f}}\colon \underline{\mathrm{f}} \vee \neg \underline{\mathrm{f}}]$

$[\mathrm{lem} \overset{\mathrm{pyk}}{\rightarrow} \text{“lem”}]$

$* \equiv *$

$[\mathsf{y} \equiv \mathsf{b} \overset{\text{tex}}{\to} \text{“\#1. \textbackslash equiv \#2.”}]$

$[* \equiv * \overset{\text{pyk}}{\to} \text{“" setequiv "”}]$

$* = *$

$[\mathsf{y} = \mathsf{b} \overset{\text{tex}}{\to} \text{“\#1. = \#2.”}]$

$[* = * \overset{\text{pyk}}{\to} \text{“" setequals "”}]$

$\neg *$

$[\neg \mathsf{x} \overset{\text{tex}}{\to} \text{“\textbackslash neg \#1.”}]$

$[\neg * \overset{\text{pyk}}{\to} \text{“lnot "”}]$

$* \wedge *$

$[\mathsf{x} \wedge \mathsf{y} \overset{\text{tex}}{\to} \text{“\#1. \textbackslash wedge \#2.”}]$

$[* \wedge * \overset{\text{pyk}}{\to} \text{“" land "”}]$

$* \vee *$

$[\mathsf{x} \vee \mathsf{y} \overset{\text{tex}}{\to} \text{“\#1. \textbackslash vee \#2.”}]$

$[* \vee * \overset{\text{pyk}}{\to} \text{“" lor "”}]$

$\forall * . (*)$

$[\forall \mathsf{y}. (\mathsf{b}) \overset{\text{tex}}{\to} \text{“\textbackslash forall \#1. . \textbackslash left(\#2.\textbackslash right)”}]$

$[\forall * . (*) \overset{\text{pyk}}{\to} \text{“forall " dot " end forall”}]$

$\exists * . (*)$

$[\exists \mathsf{y}. (\mathsf{b}) \overset{\text{tex}}{\to} \text{“\textbackslash exists \#1. . \textbackslash left(\#2.\textbackslash right)”}]$

$[\exists * . (*) \overset{\text{pyk}}{\to} \text{“exists " dot " end exists”}]$

$* \in *$

$[\mathsf{y} \in \mathsf{b} \overset{\text{tex}}{\to} \text{“\#1. \textbackslash in \#2.”}]$

$[* \in * \overset{\text{pyk}}{\to} \text{“" setin "”}]$

The pyk compiler, version 0.grue.20060417+ by Klaus Grue
GRD-2006-07-07.UTC:10:03:47.052758 = MJD-53923.TAI:10:04:20.052758 = LGT-4658983460052758e-6