

Logiweb sequent calculus, Chores

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1 Test cases

2 Pyk definitions

$[[[* \overset{\circ}{=} *] \xrightarrow{\text{pyk}} \text{"general macro define " as " end define"}]$

$[\text{RootVisible}(* \overset{\circ}{=} *) \xrightarrow{\text{pyk}} \text{"make root visible " end visible"}]$

$[A \xrightarrow{\text{pyk}} \text{"sequent example axiom"}]$

$[R \xrightarrow{\text{pyk}} \text{"sequent example rule"}]$

$[C \xrightarrow{\text{pyk}} \text{"sequent example contradiction"}]$

$[T \xrightarrow{\text{pyk}} \text{"sequent example theory"}]$

$[L \xrightarrow{\text{pyk}} \text{"sequent example lemma"}]$

$[\{*\} \xrightarrow{\text{pyk}} \text{"set " end set"}]$

$[\bar{*} \xrightarrow{\text{pyk}} \text{"object var " end var"}]$

$[a \xrightarrow{\text{pyk}} \text{"object a"}]$

$[b \xrightarrow{\text{pyk}} \text{"object b"}]$

$[c \xrightarrow{\text{pyk}} \text{"object c"}]$

$[d \xrightarrow{\text{pyk}} \text{"object d"}]$

$[e \xrightarrow{\text{pyk}} \text{"object e"}]$

$[f \xrightarrow{\text{pyk}} \text{"object f"}]$

$[g \xrightarrow{\text{pyk}} \text{"object g"}]$

$[h \xrightarrow{\text{pyk}} \text{"object h"}]$

$[i \xrightarrow{\text{pyk}} \text{"object i"}]$

$[j \xrightarrow{\text{pyk}} \text{"object j"}]$

$[k \xrightarrow{\text{pyk}} \text{"object k"}]$

$[l \xrightarrow{\text{pyk}} \text{"object l"}]$

$[m \xrightarrow{\text{pyk}} \text{"object m"}]$

$[n \xrightarrow{\text{pyk}} \text{"object n"}]$

$[o \xrightarrow{\text{pyk}} \text{"object o"}]$

$[p \xrightarrow{\text{pyk}} \text{"object p"}]$

$[q \xrightarrow{\text{pyk}} \text{"object q"}]$

$[r \xrightarrow{\text{pyk}} \text{"object r"}]$

$[s \xrightarrow{\text{pyk}} \text{"object s"}]$

$[t \xrightarrow{\text{pyk}} \text{"object t"}]$

$[u \xrightarrow{\text{pyk}} \text{"object u"}]$

$[v \xrightarrow{\text{pyk}} \text{"object v"}]$

$[w \xrightarrow{\text{pyk}} \text{"object w"}]$

$[x \xrightarrow{\text{pyk}} \text{"object x"}]$

$[y \xrightarrow{\text{pyk}} \text{"object y"}]$

$[z \xrightarrow{\text{pyk}} \text{"object z"}]$

$[\langle * \equiv * \mid * := * \rangle \xrightarrow{\text{pyk}} \text{"sub " is " where " is " end sub"}]$

$[\langle * \equiv^0 * \mid * := * \rangle \xrightarrow{\text{pyk}} \text{"sub zero " is " where " is " end sub"}]$

$[\langle * \equiv^1 * \mid * := * \rangle \xrightarrow{\text{pyk}} \text{"sub one " is " where " is " end sub"}]$

$[\langle * \equiv^* * \mid * := * \rangle \xrightarrow{\text{pyk}} \text{"sub star " is " where " is " end sub"}]$

$[\text{Ded}(*, *) \xrightarrow{\text{pyk}} \text{"deduction " conclude " end deduction"}]$

$[\text{Ded}_0(*, *) \xrightarrow{\text{pyk}} \text{"deduction zero " conclude " end deduction"}]$

$[\text{Ded}_1(*, *, *) \xrightarrow{\text{pyk}} \text{"deduction one " conclude " condition " end deduction"}]$

$[\text{Ded}_2(*, *, *) \xrightarrow{\text{pyk}} \text{"deduction two " conclude " condition " end deduction"}]$

$[\text{Ded}_3(*, *, *, *) \xrightarrow{\text{pyk}} \text{"deduction three " conclude " condition " bound " end deduction"}]$

$[\text{Ded}_4(*, *, *, *) \xrightarrow{\text{pyk}} \text{"deduction four " conclude " condition " bound " end deduction"}]$

$[\text{Ded}_4^*(*, *, *, *) \xrightarrow{\text{pyk}} \text{"deduction four star " conclude " condition " bound " end deduction"}]$

$[\text{Ded}_5(*, *, *, *) \xrightarrow{\text{pyk}} \text{"deduction five " condition " bound " end deduction"}]$

$[\text{Ded}_6(*, *, *, *) \xrightarrow{\text{pyk}} \text{"deduction six " conclude " exception " bound " end"}]$

deduction”]

[Ded₆^{*}(*, *, *, *) $\xrightarrow{\text{pyk}}$ “deduction six star " conclude " exception " bound " end deduction”]

[Ded₇(*) $\xrightarrow{\text{pyk}}$ “deduction seven " end deduction”]

[Ded₈(*, *) $\xrightarrow{\text{pyk}}$ “deduction eight " bound " end deduction”]

[Ded₈^{*}(*, *) $\xrightarrow{\text{pyk}}$ “deduction eight star " bound " end deduction”]

[S $\xrightarrow{\text{pyk}}$ “system s”]

[Neg $\xrightarrow{\text{pyk}}$ “double negation”]

[MP $\xrightarrow{\text{pyk}}$ “rule mp”]

[Gen $\xrightarrow{\text{pyk}}$ “rule gen”]

[rule div $\xrightarrow{\text{pyk}}$ “rule div”]

[Ded $\xrightarrow{\text{pyk}}$ “deduction”]

[S1 $\xrightarrow{\text{pyk}}$ “axiom s one”]

[S2 $\xrightarrow{\text{pyk}}$ “axiom s two”]

[S3 $\xrightarrow{\text{pyk}}$ “axiom s three”]

[S4 $\xrightarrow{\text{pyk}}$ “axiom s four”]

[S5 $\xrightarrow{\text{pyk}}$ “axiom s five”]

[S6 $\xrightarrow{\text{pyk}}$ “axiom s six”]

[S7 $\xrightarrow{\text{pyk}}$ “axiom s seven”]

[S8 $\xrightarrow{\text{pyk}}$ “axiom s eight”]

[S9 $\xrightarrow{\text{pyk}}$ “axiom s nine”]

[S10 $\xrightarrow{\text{pyk}}$ “axiom s ten”]

[Repetition $\xrightarrow{\text{pyk}}$ “repetition”]

[A1' $\xrightarrow{\text{pyk}}$ “lemma a one”]

[A2' $\xrightarrow{\text{pyk}}$ “lemma a two”]

[A4' $\xrightarrow{\text{pyk}}$ “lemma a four”]

[A5' $\xrightarrow{\text{pyk}}$ “lemma a five”]

[Prop 3.2a $\xrightarrow{\text{pyk}}$ “prop three two a”]

[Prop 3.2b $\xrightarrow{\text{pyk}}$ “prop three two b”]

[Prop 3.2c $\xrightarrow{\text{pyk}}$ “prop three two c”]

[Prop 3.2d $\xrightarrow{\text{pyk}}$ “prop three two d”]

[Prop 3.2e₁ $\xrightarrow{\text{pyk}}$ “prop three two e one”]

[Prop 3.2e₂ $\xrightarrow{\text{pyk}}$ “prop three two e two”]

[Prop 3.2e $\xrightarrow{\text{pyk}}$ “prop three two e”]

[Prop 3.2f₁ $\xrightarrow{\text{pyk}}$ “prop three two f one”]

[Prop 3.2f₂ $\xrightarrow{\text{pyk}}$ “prop three two f two”]

[Prop 3.2f $\xrightarrow{\text{pyk}}$ “prop three two f”]
 [Prop 3.2g₁ $\xrightarrow{\text{pyk}}$ “prop three two g one”]
 [Prop 3.2g₂ $\xrightarrow{\text{pyk}}$ “prop three two g two”]
 [Prop 3.2g $\xrightarrow{\text{pyk}}$ “prop three two g”]
 [Prop 3.2h₁ $\xrightarrow{\text{pyk}}$ “prop three two h one”]
 [Prop 3.2h₂ $\xrightarrow{\text{pyk}}$ “prop three two h two”]
 [Prop 3.2h $\xrightarrow{\text{pyk}}$ “prop three two h”]
 [Prop 3.2i $\xrightarrow{\text{pyk}}$ “prop three two i”]
 [Prop 3.2j₁ $\xrightarrow{\text{pyk}}$ “prop three two j one”]
 [Prop 3.2j₂ $\xrightarrow{\text{pyk}}$ “prop three two j two”]
 [Prop 3.2j $\xrightarrow{\text{pyk}}$ “prop three two j”]
 [Prop 3.2k₁ $\xrightarrow{\text{pyk}}$ “prop three two k one”]
 [Prop 3.2k₂ $\xrightarrow{\text{pyk}}$ “prop three two k two”]
 [Prop 3.2k $\xrightarrow{\text{pyk}}$ “prop three two k”]
 [Prop 3.2l₁ $\xrightarrow{\text{pyk}}$ “prop three two l one”]
 [Prop 3.2l₂ $\xrightarrow{\text{pyk}}$ “prop three two l two”]
 [Prop 3.2l $\xrightarrow{\text{pyk}}$ “prop three two l”]
 [Prop 3.2m₁ $\xrightarrow{\text{pyk}}$ “prop three two m one”]
 [Prop 3.2m₂ $\xrightarrow{\text{pyk}}$ “prop three two m two”]
 [Prop 3.2m $\xrightarrow{\text{pyk}}$ “prop three two m”]
 [Prop 3.2n₁ $\xrightarrow{\text{pyk}}$ “prop three two n one”]
 [Prop 3.2n₂ $\xrightarrow{\text{pyk}}$ “prop three two n two”]
 [Prop 3.2n $\xrightarrow{\text{pyk}}$ “prop three two n”]
 [Prop 3.2o $\xrightarrow{\text{pyk}}$ “prop three two o”]
 [Prop 3.4a₁ $\xrightarrow{\text{pyk}}$ “prop three four a one”]
 [Prop 3.4a₂ $\xrightarrow{\text{pyk}}$ “prop three four a two”]
 [Prop 3.4a $\xrightarrow{\text{pyk}}$ “prop three four a”]
 [Prop 3.4b $\xrightarrow{\text{pyk}}$ “prop three four b”]
 [Prop 3.4c₁ $\xrightarrow{\text{pyk}}$ “prop three four c one”]
 [Prop 3.4c₂ $\xrightarrow{\text{pyk}}$ “prop three four c two”]
 [Prop 3.4c $\xrightarrow{\text{pyk}}$ “prop three four c”]
 [Prop 3.4d₁ $\xrightarrow{\text{pyk}}$ “prop three four d one”]
 [Prop 3.4d₂ $\xrightarrow{\text{pyk}}$ “prop three four d two”]
 [Prop 3.4d $\xrightarrow{\text{pyk}}$ “prop three four d”]
 [Block₁(* , * , *) $\xrightarrow{\text{pyk}}$ “block one " state " cache " end block”]

$[\text{Block}_2(*) \xrightarrow{\text{pyk}} \text{"block two " end block"}]$
 $[*_{\text{hide}} \xrightarrow{\text{pyk}} \text{" hide"}]$
 $[\text{MacroIndent}(*) \xrightarrow{\text{pyk}} \text{"macro indent "}]$
 $[*' \xrightarrow{\text{pyk}} \text{" suc"}]$
 $[* = * \xrightarrow{\text{pyk}} \text{" equal "}]$
 $[* \neq * \xrightarrow{\text{pyk}} \text{" unequal "}]$
 $[*_{\text{var}} \xrightarrow{\text{pyk}} \text{" is object var"}]$
 $[*_{\#0} \xrightarrow{\text{pyk}} \text{" avoid zero "}]$
 $[*_{\#1} \xrightarrow{\text{pyk}} \text{" avoid one "}]$
 $[*_{\#*} \xrightarrow{\text{pyk}} \text{" avoid star "}]$
 $[\exists *: * \xrightarrow{\text{pyk}} \text{"exist " indeed "}]$
 $[\forall *: * \xrightarrow{\text{pyk}} \text{"for all " indeed "}]$
 $[\forall_{\text{obj}} *: * \xrightarrow{\text{pyk}} \text{"for all objects " indeed "}]$
 $[* \Rightarrow * \xrightarrow{\text{pyk}} \text{" imply "}]$
 $[* \Leftrightarrow * \xrightarrow{\text{pyk}} \text{" if and only if "}]$
 $[*_{\#*} \xrightarrow{\text{pyk}} \text{" avoid "}]$
 $[* \supseteq * \xrightarrow{\text{pyk}} \text{" object modus ponens "}]$
 $[\Pi *: * \xrightarrow{\text{pyk}} \text{"for all terms " indeed "}]$
 $[\text{Begin} *; * : \text{End}; * \xrightarrow{\text{pyk}} \text{"block " line " end block "}]$
 $[\text{Last block line} * \gg *; * \xrightarrow{\text{pyk}} \text{"because " indeed " end line"}]$
 $[\text{Arbitrary} \gg *; * \xrightarrow{\text{pyk}} \text{"any term " end line "}]$
 $[* | * \xrightarrow{\text{pyk}} \text{" alternative "}]$
 $[\rightarrow \xrightarrow{\text{pyk}} \text{"evaluates to"}]$
 $[* \backslash * \xrightarrow{\text{pyk}} \text{" safe row "}]$
 $[* || * \xrightarrow{\text{pyk}} \text{" divides "}]$
 $[\text{pok} \xrightarrow{\text{pyk}} \text{"pok"}]$
 $)^{\mathbf{P}}$

3 T_EX definitions

$[[x \stackrel{\circ}{=} y] \stackrel{\text{tex}}{=} \text{"$
 $\quad \quad \quad [\#1/\text{tex name}/\text{tex}.$
 $\quad \quad \quad \backslash\text{stackrel}{\{\circ\}}{\{=\}}\#2.$
 $\quad \quad \quad \text{"}]$
 $[\text{RootVisible}(x) \stackrel{\text{tex}}{=} \text{"\#1/\text{tex name}/\text{tex}."}]$
 $[\text{RootVisible}(x) \stackrel{\text{name}}{=} \text{"$

RootVisible(#1.
)]

[x^{hide} ≡ “#1.
{}^{\hide}”]

[x' ≡ “#1.
{}”]

[x = y ≡ “#1.
= #2.”]

[x ≠ y ≡ “#1.
\neq #2.”]

[x ⇒ y ≡ “#1.
\Rightarrow #2.”]

[x ⇔ y ≡ “#1.
\Leftrightarrow #2.”]

[x | y ≡ “#1.
\mathrel{||} #2.”]

[∃x:y ≡ “
\exists #1.
\colon #2.”]

[∀x:y ≡ “
\forall #1.
\colon #2.”]

[∀_{obj}x:y ≡ “
\forall_{obj} #1.
\colon #2.”]

[∏x:y ≡ “
\Pi #1.
\colon #2.”]

[Arbitrary ≫ i; p ≡ “
\newline \makebox [0.1\textwidth][l]{
\if \relax \cname lgwproofline\endcname L_? \else
\global \advance \lgwproofline by 1
L\ifnum \lgwproofline <10 0\fi \number \lgwproofline
\fi
\$:}\makebox [0.4\textwidth][l]{\\$Arbitrary}\gg}\\$}\quad
\parbox [t]{0.4\textwidth }{\\$#1.
\$\hfill \makebox [0mm][l]{\quad ;}}#2.”]

[Arbitrary \gg i; p $\stackrel{\text{name}}{=}$ “
Arbitrary \gg #1.
; #2.”]

[x\y $\stackrel{\text{tex}}{=}$ “#1.
\{\}#2.”]

[x\y $\stackrel{\text{name}}{=}$ “#1.
\backslash \backslash #2.”]

[A $\stackrel{\text{tex}}{=}$ “
A”]

[R $\stackrel{\text{tex}}{=}$ “
R”]

[C $\stackrel{\text{tex}}{=}$ “
C”]

[T $\stackrel{\text{tex}}{=}$ “
T”]

[L $\stackrel{\text{tex}}{=}$ “
L”]

[{x} $\stackrel{\text{tex}}{=}$ “
\{#1.
\}”]

[S $\stackrel{\text{tex}}{=}$ “
S”]

[Neg $\stackrel{\text{tex}}{=}$ “
Neg”]

[S1 $\stackrel{\text{tex}}{=}$ “
S1”]

[S2 $\stackrel{\text{tex}}{=}$ “
S2”]

[S3 $\stackrel{\text{tex}}{=}$ “
S3”]

[S4 $\stackrel{\text{tex}}{=}$ “
S4”]

[S5 $\stackrel{\text{tex}}{=}$ “
S5”]

[S6^{tex} ≡ “
S6”]

[S7^{tex} ≡ “
S7”]

[S8^{tex} ≡ “
S8”]

[S9^{tex} ≡ “
S9”]

[S10^{tex} ≡ “
S10”]

[MP^{tex} ≡ “
MP”]

[Gen^{tex} ≡ “
Gen”]

[Ded^{tex} ≡ “
Ded”]

[Repetition^{tex} ≡ “
Repetition”]

[A1'^{tex} ≡ “
A1”]

[A2'^{tex} ≡ “
A2”]

[A4'^{tex} ≡ “
A4”]

[A5'^{tex} ≡ “
A5”]

[x^{var}^{tex} ≡ “#1.
{ } ^ {var}”]

[x#y^{tex} ≡ “#1.
\#. #2.”]

[x#⁰y^{tex} ≡ “#1.
\#. ^0#2.”]

[x#¹y $\stackrel{\text{tex}}{=}$ “#1.
 \#. ^1#2.”]

[x#*y $\stackrel{\text{tex}}{=}$ “#1.
 \#. ^*#2.”]

[(x≡y|z:=u) $\stackrel{\text{tex}}{=}$ “
 \langle #1.
 {\equiv} #2.
 | #3.
 {:=} #4.
 \rangle ”]

[(x≡⁰y|z:=u) $\stackrel{\text{tex}}{=}$ “
 \langle #1.
 {\equiv}^0 #2.
 | #3.
 {:=} #4.
 \rangle ”]

[(x≡¹y|z:=u) $\stackrel{\text{tex}}{=}$ “
 \langle #1.
 {\equiv}^1 #2.
 | #3.
 {:=} #4.
 \rangle ”]

[(x≡*y|z:=u) $\stackrel{\text{tex}}{=}$ “
 \langle #1.
 {\equiv}^* #2.
 | #3.
 {:=} #4.
 \rangle ”]

[Ded(x, y) $\stackrel{\text{tex}}{=}$ “
 Ded(#1.
 , #2.
)”]

[Ded₀(x, y) $\stackrel{\text{tex}}{=}$ “
 Ded.0(#1.
 , #2.
)”]

[Ded₁(x, y, z) $\stackrel{\text{tex}}{=}$ “
 Ded.1(#1.
 , #2.

, #3.
)"]

[Ded₂(x, y, z) ^{tex} ≡ "
Ded_2(#1.
, #2.
, #3.
)"]

[Ded₃(x, y, z, u) ^{tex} ≡ "
Ded_3(#1.
, #2.
, #3.
, #4.
)"]

[Ded₄(x, y, z, u) ^{tex} ≡ "
Ded_4(#1.
, #2.
, #3.
, #4.
)"]

[Ded₄^{*}(x, y, z, u) ^{tex} ≡ "
Ded_4^*(#1.
, #2.
, #3.
, #4.
)"]

[Ded₅(x, y, z) ^{tex} ≡ "
Ded_5(#1.
, #2.
, #3.
)"]

[Ded₆(p, c, e, b) ^{tex} ≡ "
Ded_6(#1.
, #2.
, #3.
, #4.
)"]

[Ded₆^{*}(p, c, e, b) ^{tex} ≡ "
Ded_6^*(#1.
, #2.
, #3.
)"]

, #4.
)]

[Ded₇(p) $\stackrel{\text{tex}}{=} \text{“}$
Ded_7(#1.
)]

[Ded₈(p, b) $\stackrel{\text{tex}}{=} \text{“}$
Ded_8(#1.
, #2.
)]

[Ded₈^{*}(p, b) $\stackrel{\text{tex}}{=} \text{“}$
Ded_8^*(#1.
, #2.
)]

[Begin b;l : End; p $\stackrel{\text{tex}}{=} \text{“}$
 \newline \makebox [0.1\textwidth]{}%
 \parbox [b]{0.4\textwidth}{\raggedright
 \setlength {\parindent}{-0.1\textwidth}%
 \makebox [0.1\textwidth][l]{ $\$$
 \if \relax \csname lgwproofline\endcsname L_? \else
 \global \advance \lgwproofline by 1
 L\ifnum \lgwproofline <10 0\fi \number \lgwproofline
 \fi
 $\$$:\\$Block {\}\gg {\}\\$}\quad
 \parbox [t]{0.4\textwidth}{\\$Begin
 $\$$ \hfill \makebox [0mm][l]{\quad ;}\#1.
 \newline \makebox [0.1\textwidth]{}%
 \parbox [b]{0.4\textwidth}{\raggedright
 \setlength {\parindent}{-0.1\textwidth}%
 \makebox [0.1\textwidth][l]{ $\$$ \#2.
 $\$$:\\$Block {\}\gg {\}\\$}\quad
 \parbox [t]{0.4\textwidth}{\\$End
 $\$$ \hfill \makebox [0mm][l]{\quad ;}\#3.”}

[Begin b;l : End; p $\stackrel{\text{name}}{=} \text{“}$
Begin \, #1.
; #2.
: End ; #3.”]

[Last block line a $\gg i$; $\stackrel{\text{tex}}{=} \text{“}$
 \newline \makebox [0.1\textwidth]{}%
 \parbox [b]{0.4\textwidth}{\raggedright
 \setlength {\parindent}{-0.1\textwidth}%
 \makebox [0.1\textwidth][l]{ $\$$

```

\if \relax \csname lgwproofline\endcsname L_? \else
\global \advance \lgwproofline by 1
L\ifnum \lgwproofline <10 0\fi \number \lgwproofline
\fi
$:\}$#1.
{\}\gg {\}\$}\quad
\parbox [t]{0.4\textwidth }{\$#2.
$\hfill \makebox [0mm][l]{\quad ;}}

```

```

[Last block line a  $\gg$  i; name “
Last\ block\ line \, #1.
\gg #2.
\, ;”]

```

```

[x  $\geq$  y tex “#1.
\unrhd #2.”]

```

```

[x||y tex “#1.
\| #2.”]

```

```

[Prop 3.2a tex “
Prop\ 3.2a”]

```

```

[Prop 3.2b tex “
Prop\ 3.2b”]

```

```

[Prop 3.2c tex “
Prop\ 3.2c”]

```

```

[Prop 3.2d tex “
Prop\ 3.2d”]

```

```

[Prop 3.2e1 tex “
Prop\ 3.2e.1”]

```

```

[Prop 3.2e2 tex “
Prop\ 3.2e.2”]

```

```

[Prop 3.2e tex “
Prop\ 3.2e”]

```

```

[Prop 3.2f1 tex “
Prop\ 3.2f.1”]

```

```

[Prop 3.2f2 tex “
Prop\ 3.2f.2”]

```

[Prop 3.2f $\stackrel{\text{tex}}{=} “$
Prop\ 3.2f”]

[Prop 3.2g₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2g_1”]

[Prop 3.2g₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2g_2”]

[Prop 3.2g $\stackrel{\text{tex}}{=} “$
Prop\ 3.2g”]

[Prop 3.2h₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2h_1”]

[Prop 3.2h₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2h_2”]

[Prop 3.2h $\stackrel{\text{tex}}{=} “$
Prop\ 3.2h”]

[Prop 3.2i $\stackrel{\text{tex}}{=} “$
Prop\ 3.2i”]

[Prop 3.2j $\stackrel{\text{tex}}{=} “$
Prop\ 3.2j”]

[Prop 3.2j₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2j_1”]

[Prop 3.2j₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2j_2”]

[Prop 3.2k $\stackrel{\text{tex}}{=} “$
Prop\ 3.2k”]

[Prop 3.2k₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2k_1”]

[Prop 3.2k₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2k_2”]

[Prop 3.2l $\stackrel{\text{tex}}{=} “$
Prop\ 3.2l”]

[Prop 3.2l₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2l_1”]

[Prop 3.2l₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2l_2”]

[Prop 3.2m $\stackrel{\text{tex}}{=} “$
Prop\ 3.2m”]

[Prop 3.2m₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2m_1”]

[Prop 3.2m₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2m_2”]

[Prop 3.2n $\stackrel{\text{tex}}{=} “$
Prop\ 3.2n”]

[Prop 3.2n₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2n_1”]

[Prop 3.2n₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.2n_2”]

[Prop 3.2o $\stackrel{\text{tex}}{=} “$
Prop\ 3.2o”]

[Prop 3.4a₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.4a_1”]

[Prop 3.4a₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.4a_2”]

[Prop 3.4a $\stackrel{\text{tex}}{=} “$
Prop\ 3.4a”]

[Prop 3.4b $\stackrel{\text{tex}}{=} “$
Prop\ 3.4b”]

[Prop 3.4c₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.4c_1”]

[Prop 3.4c₂ $\stackrel{\text{tex}}{=} “$
Prop\ 3.4c_2”]

[Prop 3.4c $\stackrel{\text{tex}}{=} “$
Prop\ 3.4c”]

[Prop 3.4d₁ $\stackrel{\text{tex}}{=} “$
Prop\ 3.4d_1”]

[Prop 3.4d₂ ^{tex} ≡ “
Prop\ 3.4d_2”]

[Prop 3.4d ^{tex} ≡ “
Prop\ 3.4d”]

[MacroIndent(x) ^{tex} ≡ “
\$%
\leftskip=1em%
\$#1.”]

[MacroIndent(x) ^{name} ≡ “
MacroIndent(#1.
)”]

[Block₁(t, s, c) ^{tex} ≡ “
Block_1(#1.
, #2.
, #3.
)”]

[Block₂(b) ^{tex} ≡ “
Block_2(#1.
)”]

[\rightarrow ^{tex} ≡ “
\rightarrow ”]

3.1 Variables

[\bar{x} ^{tex} ≡ “\overline{#1.}”]

[$a \doteq \bar{a}$]

[$b \doteq \bar{b}$]

[$c \doteq \bar{c}$]

[$d \doteq \bar{d}$]

[$e \doteq \bar{e}$]

[$f \doteq \bar{f}$]

[$g \doteq \bar{g}$]

[$h \doteq \bar{h}$]

[$i \doteq \bar{i}$]

[$j \doteq \bar{j}$]

[$k \doteq \bar{k}$]

[$l \doteq \bar{l}$]

[$m \doteq \bar{m}$]

[$n \doteq \bar{n}$]

[$o \doteq \bar{o}$]

[$p \doteq \bar{p}$]

$[q \doteq \bar{q}]$
 $[r \doteq \bar{r}]$
 $[s \doteq \bar{s}]$
 $[t \doteq \bar{t}]$
 $[u \doteq \bar{u}]$
 $[v \doteq \bar{v}]$
 $[w \doteq \bar{w}]$
 $[x \doteq \bar{x}]$
 $[y \doteq \bar{y}]$
 $[z \doteq \bar{z}]$
 $[a \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{a\}$ ”]
 $[b \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{b\}$ ”]
 $[c \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{c\}$ ”]
 $[d \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{d\}$ ”]
 $[e \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{e\}$ ”]
 $[f \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{f\}$ ”]
 $[g \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{g\}$ ”]
 $[h \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{h\}$ ”]
 $[i \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{i\}$ ”]
 $[j \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{j\}$ ”]
 $[k \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{k\}$ ”]
 $[l \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{l\}$ ”]
 $[m \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{m\}$ ”]
 $[n \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{n\}$ ”]
 $[o \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{o\}$ ”]
 $[p \stackrel{\text{tex}}{=} \text{“}]$
 $\backslash\text{mathit}\{p\}$ ”]

$[q \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{q\}\text{”}]$
 $[r \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{r\}\text{”}]$
 $[s \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{s\}\text{”}]$
 $[t \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{t\}\text{”}]$
 $[u \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{u\}\text{”}]$
 $[v \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{v\}\text{”}]$
 $[w \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{w\}\text{”}]$
 $[x \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{x\}\text{”}]$
 $[y \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{y\}\text{”}]$
 $[z \stackrel{\text{tex}}{=} \text{“} \backslash\text{mathit}\{z\}\text{”}]$

4 Priority table

Priority table

Preassociative

[flush left *], [x], [y], [z], [[* \bowtie *]], [[* \rightarrow *]], [pyk], [tex], [name], [prio], [*, [T],
[if(*, *, *)], [[* \Rightarrow *]], [val], [claim], [\perp], [f(*)], [(*)^I], [F], [0], [1], [2], [3], [4], [5], [6],
[7], [8], [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], [(*)^M], [If(*, *, *)],
[array{*} * end array], [l], [c], [r], [empty], [(* | * := *)], [\mathcal{M} (*)], [$\tilde{\mathcal{U}}$ (*)], [\mathcal{U} (*)],
 \mathcal{U}^M (*)], [**apply**(*, *)], [**apply**₁(*, *)], [identifier(*)], [identifier₁(*, *)], [array-
plus(*, *)], [array-remove(*, *, *)], [array-put(*, *, *, *)], [array-add(*, *, *, *, *)],
[bit(*, *)], [bit₁(*, *)], [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**(*, *, *, *)], [[*]], [\mathcal{M} (*, *, *)], [\mathcal{M}_2 (*, *, *, *)], [\mathcal{M}^* (*, *, *)], [macro],
[s₀], [**zip**(*, *)], [**assoc**₁(*, *, *)], [(*)^P], [self], [[* \doteq *]], [[* $\dot{=}$ *]], [[* $\dot{=}$ *]],
[[* $\stackrel{\text{pyk}}{=}$ *]], [[* $\stackrel{\text{tex}}{=}$ *]], [[* $\stackrel{\text{name}}{=}$ *]], [**Priority table**[*]], [$\tilde{\mathcal{M}}_1$], [$\tilde{\mathcal{M}}_2$ (*)], [$\tilde{\mathcal{M}}_3$ (*)],
 $\tilde{\mathcal{M}}_4$ (*, *, *, *)], [\mathcal{M} (*, *, *)], [\mathcal{Q} (*, *, *)], [$\tilde{\mathcal{Q}}_2$ (*, *, *)], [$\tilde{\mathcal{Q}}_3$ (*, *, *, *)], [$\tilde{\mathcal{Q}}^*$ (*, *, *)],

$[(*)], [(*), [display(*)], [statement(*)], [[*]'], [[*]^-], [aspect(*, *)],$
 $[aspect(*, *, *)], [(*)], [tuple_1(*)], [tuple_2(*)], [let_2(*, *)], [let_1(*, *, *)],$
 $[[* \stackrel{claim}{=} *]], [checker], [check(*, *)], [check_2(*, *, *)], [check_3(*, *, *, *)],$
 $[check^*(*, *)], [check_2^*(*, *, *)], [[*]'], [[*]^-], [[*]^\circ], [msg], [[* \stackrel{msg}{=} *]], [<stmt>],$
 $[stmt], [[* \stackrel{stmt}{=} *]], [HeadNil'], [HeadPair'], [Transitivity'], [\perp], [Contra'], [T'_E],$
 $[L_1], [A], [B], [C], [D], [E], [F], [G], [H], [I], [J], [K], [L], [M], [N], [O], [P], [Q],$
 $[R], [S], [T], [U], [V], [W], [X], [Y], [Z], [(* * := *)], [(* * * := *)], [\emptyset], [Remainder],$
 $[(*^\vee)], [intro(*, *, *, *)], [intro(*, *, *)], [error(*, *)], [error_2(*, *)], [proof(*, *, *)],$
 $[proof_2(*, *)], [S(*, *)], [S^I(*, *)], [S^\triangleright(*, *)], [S^\triangleright^I(*, *, *)], [S^E(*, *)], [S^E_I(*, *, *)],$
 $[S^+(*, *)], [S^+_I(*, *, *)], [S^-(*, *)], [S^-_I(*, *, *)], [S^*(*, *)], [S^*_I(*, *, *)],$
 $[S^*_2(*, *, *, *)], [S^\oplus(*, *)], [S^\oplus_I(*, *, *)], [S^+(*, *)], [S^+_I(*, *, *, *)], [S^{\#}(*, *)],$
 $[S^{\#}_I(*, *, *, *)], [S^{i.e.}(*, *)], [S^{i.e.}_I(*, *, *, *)], [S^{i.e.}_2(*, *, *, *, *)], [S^\vee(*, *)],$
 $[S^\vee_I(*, *, *, *)], [S^i(*, *)], [S^i_I(*, *, *)], [S^j_2(*, *, *, *)], [T(*)], [claims(*, *, *)],$
 $[claims_2(*, *, *)], [<proof>], [proof], [[Lemma * : *]], [[Proof of * : *]],$
 $[[* lemma * : *]], [[* antilemma * : *]], [[* rule * : *]], [[* antirule * : *]],$
 $[verifier], [V_1(*)], [V_2(*, *)], [V_3(*, *, *, *)], [V_4(*, *)], [V_5(*, *, *, *)], [V_6(*, *, *, *)],$
 $[V_7(*, *, *, *)], [Cut(*, *)], [Head_\oplus(*)], [Tail_\oplus(*)], [rule_1(*, *)], [rule(*, *)],$
 $[Rule tactic], [Plus(*, *)], [[Theory *]], [theory_2(*, *)], [theory_3(*, *)],$
 $[theory_4(*, *, *)], [HeadNil''], [HeadPair''], [Transitivity''], [Contra''], [HeadNil],$
 $[HeadPair], [Transitivity], [Contra], [T_E], [ragged right],$
 $[ragged right expansion], [parm(*, *, *)], [parm^*(*, *, *)], [inst(*, *)],$
 $[inst^*(*, *)], [occur(*, *, *)], [occur^*(*, *, *)], [unify(* = *, *)], [unify^*(* = *, *)],$
 $[unify_2(* = *, *)], [L_a], [L_b], [L_c], [L_d], [L_e], [L_f], [L_g], [L_h], [L_i], [L_j], [L_k], [L_l], [L_m],$
 $[L_n], [L_o], [L_p], [L_q], [L_r], [L_s], [L_t], [L_u], [L_v], [L_w], [L_x], [L_y], [L_z], [L_A], [L_B], [L_C],$
 $[L_D], [L_E], [L_F], [L_G], [L_H], [L_I], [L_J], [L_K], [L_L], [L_M], [L_N], [L_O], [L_P], [L_Q], [L_R],$
 $[L_S], [L_T], [L_U], [L_V], [L_W], [L_X], [L_Y], [L_Z], [L_?], [Reflexivity], [Reflexivity_1],$
 $[Commutativity], [Commutativity_1], [<tactic>], [tactic], [[* \stackrel{tactic}{=} *]], [P(*, *, *)],$
 $[P^*(*, *, *)], [p_0], [conclude_1(*, *)], [conclude_2(*, *, *)], [conclude_3(*, *, *, *)],$
 $[conclude_4(*, *)], [[* \overset{\circ}{=} *]], [RootVisible(*)], [A], [R], [C], [T], [L], [{*}], [a], [b],$
 $[c], [d], [e], [f], [g], [h], [i], [j], [k], [l], [m], [n], [o], [p], [q], [r], [s], [t], [u], [v], [w], [x],$
 $[y], [z], [(* \equiv * | * := *)], [(* \equiv^0 * | * := *)], [(* \equiv^1 * | * := *)], [(* \equiv^* * | * := *)],$
 $[Ded(*, *)], [Ded_0(*, *)], [Ded_1(*, *, *)], [Ded_2(*, *, *)], [Ded_3(*, *, *, *)],$
 $[Ded_4(*, *, *, *)], [Ded_4^*(*, *, *, *)], [Ded_5(*, *, *)], [Ded_6(*, *, *, *)],$
 $[Ded_6^*(*, *, *, *)], [Ded_7(*)], [Ded_8(*, *)], [Ded_8^*(*, *)], [S], [Neg], [MP], [Gen],$
 $[rule div], [Ded], [S1], [S2], [S3], [S4], [S5], [S6], [S7], [S8], [S9], [S10], [Repetition],$
 $[A1'], [A2'], [A4'], [A5'], [Prop 3.2a], [Prop 3.2b], [Prop 3.2c], [Prop 3.2d],$
 $[Prop 3.2e_1], [Prop 3.2e_2], [Prop 3.2e], [Prop 3.2f_1], [Prop 3.2f_2], [Prop 3.2f],$
 $[Prop 3.2g_1], [Prop 3.2g_2], [Prop 3.2g], [Prop 3.2h_1], [Prop 3.2h_2], [Prop 3.2h],$
 $[Prop 3.2i], [Prop 3.2j_1], [Prop 3.2j_2], [Prop 3.2j], [Prop 3.2k_1], [Prop 3.2k_2],$
 $[Prop 3.2k], [Prop 3.2l_1], [Prop 3.2l_2], [Prop 3.2l], [Prop 3.2m_1], [Prop 3.2m_2],$
 $[Prop 3.2m], [Prop 3.2n_1], [Prop 3.2n_2], [Prop 3.2n], [Prop 3.2o], [Prop 3.4a_1],$
 $[Prop 3.4a_2], [Prop 3.4a], [Prop 3.4b], [Prop 3.4c_1], [Prop 3.4c_2], [Prop 3.4c],$
 $[Prop 3.4d_1], [Prop 3.4d_2], [Prop 3.4d], [Block_1(*, *, *)], [Block_2(*, *)];$

Preassociative

$[_* \{*\}], [*/indexintro(*, *, *, *)], [*/intro(*, *, *)], [*/bothintro(*, *, *, *, *)],$

[*/nameintro(*, *, *, *), [*'], [* *], [*[*→*]], [*[*⇒*]], [*0], [*1], [0b], [*-color(*)], [*-color*(*)], [*^H], [*^T], [*^U], [*^h], [*^t], [*^s], [*^c], [*^d], [*^a], [*^C], [*^M], [*^B], [*^r], [*ⁱ], [*^d], [*^R], [*⁰], [*¹], [*²], [*³], [*⁴], [*⁵], [*⁶], [*⁷], [*⁸], [*⁹], [*^E], [*^ℳ], [*^C], [*^{C*}], [*hide];

Preassociative

[“ * ”], [], [(*)^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 *], [[*], [\ *], [] *], [^ *], [_ *], [‘ *], [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

[* · *], [* ·0 *];

Preassociative

[* + *], [* +0 *], [* +1 *], [* - *], [* -0 *], [* -1 *];

Preassociative

[* ∪ { * }], [* ∪ *], [* \ { * }];

Postassociative

[* ∴ *], [* ∴ ∴ *], [* ∴ ∴ ∴ *], [* +2* *], [* ∴ ∴ *], [* +2* *];

Postassociative

[* , *];

Preassociative

[* ^B ≈ *], [* ^D ≈ *], [* ^C ≈ *], [* ^P ≈ *], [* ≈ *], [* = *], [* → *], [* ^t = *], [* ^{t*} = *], [* ^r = *], [* ∈_t *], [* ⊆_T *], [* ^T = *], [* ^s = *], [* free in *], [* free in* *], [* free for * in *], [* free for* * in *], [* ∈_c *], [* < *], [* <’ *], [* ≤’ *], [* = *], [* ≠ *], [*^{var}], [*#⁰ *], [*#¹ *], [*#* *];

Preassociative

[¬ *];

Preassociative

[* ∧ *], [* ^λ *], [* ^λ *], [* ∧_c *];

Preassociative

[* ∨ *], [* || *], [* [∨] *];

Preassociative

[∃ *; *], [∀ *; *], [∀_{obj} *; *];

Postassociative

[* [⇒] *], [* ⇒ *], [* ⇔ *];

Postassociative

[* : *], [* spy *], [*! *];

Preassociative

[* $\left\{ \begin{array}{c} * \\ * \end{array} \right.$ *];

Preassociative

[λ * .*], [Λ * .*], [Λ *], [if * then * else *], [let * = * in *], [let * \doteq * in *];

Preassociative

[*#*];

Preassociative

[*^I], [*[▷]], [*^V], [*⁺], [*⁻], [*^{*}];

Preassociative

[* @ *], [* ▷ *], [* ▷ *], [* ≫ *], [* ≳ *];

Postassociative

[* ⊢ *], [* ⊢ *], [* i.e. *];

Preassociative

[\forall *: *], [Π *: *];

Postassociative

[* ⊕ *];

Postassociative

[*; *];

Preassociative

[* proves *];

Preassociative

[* **proof of** * : *], [Line * : * ≫ *; *], [Last line * ≫ * □],
[Line * : Premise ≫ *; *], [Line * : Side-condition ≫ *; *], [Arbitrary ≫ *; *],
[Local ≫ * = *; *], [Begin *; * : End; *], [Last block line * ≫ *; *],
[Arbitrary ≫ *; *];

Postassociative

[* | *];

Postassociative

[* , *], [* [*] *];

Preassociative

[*&*], [→];

Preassociative

[**], [* linebreak[4] *], [**], [*||*]; **End table**