

ny—  
 $[x \ll \text{testy}^{\text{tex}} \equiv \text{"\#1.}$   
 $\ll \text{test\#2.}"]$   
 $[ \ll \text{testMacro}(t) \stackrel{\text{tex}}{=} \ll \text{testMacro}(\#1.$   
 $)"]$   
 $([x \ll \text{testy} \xrightarrow{\text{macro}} \lambda t. \lambda s. \lambda c. \ll \text{testMacro}(t^{\text{h}} :: \text{ExpandList}(t^{\text{t}}, s, c)))]^{\text{P}}$   
 $[ \ll \text{testMacro}(t) \xrightarrow{\text{val}} \tilde{Q}(t, [x], ([x] :: t^{222121222111111}) :: \text{T})$   
 $(****)$   
 $\text{R}(a) + +\text{R}(b) \ 1$   
 $\text{R}(a) + +\text{R}(b) + +\text{R}(c) \ 2$   
 $(- - \text{R}(a)) \ 3$   
 $(- - \{\text{ph} \in \text{Tester3} \mid \text{SF}(a, \text{Tester4})\}) \ 4$   
 $(- - (- - \text{R}(a))) \ 5$   
 $(- - (- - (- - (- - (- - \text{R}(a)))))) \ 6$   
 $\text{R}(a) * * \text{R}(b) \ 7$   
 $\text{R}(a *_{\text{f}} b) \ 8$   
 $\text{R}(\text{FX}) * * \text{R}(\text{of}) \ 8\text{a}$   
 $\text{R}(\text{FX} *_{\text{f}} \text{of}) \ 8\text{b}$   
 $\text{R}(a) * * \text{R}(b) * * \text{R}(c) \ 8$   
 $(- - \text{R}(a)) * * \text{R}(b) + + \text{R}(c) \ 9$   
 $\text{R}(a) * * \text{R}(b) * * \text{R}(c) \ll (- - \text{R}(a)) * * \text{R}(b) + + \text{R}(c) \ 10$   
 $(- - (- - (- - (- - (- - \text{R}(a)))))) \ll \text{R}(b) + + \text{R}(b) + + \text{R}(c) \ 11$   
 $\text{R}(a) \ 12$   
 $\text{R}(b) \ 13$   
 $\text{R}(a) \ll \text{R}(b) \ 14$   
 $\text{R}(a) \ll \text{testR}(b) \ 15$   
 venter—

## Priority table

### Preassociative

[prove], [base], [bracket \* end bracket], [big bracket \* end bracket], [ \$ \* \$ ],  
[flush left [\*], [x], [y], [z], [[\*  $\bowtie$  \*]], [[\*  $\xrightarrow{*}$  \*]], [pyk], [tex], [name], [prio], [\*], [T],  
[if(\*, \*, \*)], [[\*  $\xrightarrow{*}$  \*]], [val], [claim], [ $\perp$ ], [f(\*)], [(\*)<sup>l</sup>], [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], [(\*)<sup>M</sup>], [If(\*, \*, \*)],  
[array{\*} \* end array], [l], [c], [r], [empty], [( \* | \* := \* )], [ $\mathcal{M}(*)$ ], [ $\tilde{\mathcal{U}}(*)$ ], [ $\mathcal{U}(*)$ ],  
 $\mathcal{U}^{\text{M}}(*)$ ], [apply(\*, \*)], [apply<sub>1</sub>(\*, \*)], [identifier(\*)], [identifier<sub>1</sub>(\*, \*)], [array-  
plus(\*, \*)], [array-remove(\*, \*, \*)], [array-put(\*, \*, \*, \*)], [array-add(\*, \*, \*, \*, \*)],  
[bit(\*, \*)], [bit<sub>1</sub>(\*, \*)], [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],

$[so]$ ,  $[zip(*, *)]$ ,  $[assoc_1(*, *, *)]$ ,  $[(*)^P]$ ,  $[self]$ ,  $[[* \doteq *]]$ ,  $[[* \dot{=} *]]$ ,  $[[* \dot{=} *]]$ ,  
 $[[* \stackrel{pyk}{=} *]]$ ,  $[[* \stackrel{tex}{=} *]]$ ,  $[[* \stackrel{name}{=} *]]$ ,  $[Priority\ table[*]]$ ,  $[\tilde{\mathcal{M}}_1]$ ,  $[\tilde{\mathcal{M}}_2(*)]$ ,  $[\tilde{\mathcal{M}}_3(*)]$ ,  
 $[\tilde{\mathcal{M}}_4(*, *, *, *)]$ ,  $[\mathcal{M}(*, *, *)]$ ,  $[\tilde{\mathcal{Q}}(*, *, *)]$ ,  $[\tilde{\mathcal{Q}}_2(*, *, *)]$ ,  $[\tilde{\mathcal{Q}}_3(*, *, *, *)]$ ,  $[\tilde{\mathcal{Q}}^*(*, *, *)]$ ,  
 $[(*)]$ ,  $[(*)]$ ,  $[display(*)]$ ,  $[statement(*)]$ ,  $[[*]]$ ,  $[[*]^-]$ ,  $[aspect(*, *)]$ ,  
 $[aspect(*, *, *)]$ ,  $[(*)]$ ,  $[tuple_1(*)]$ ,  $[tuple_2(*)]$ ,  $[let_2(*, *)]$ ,  $[let_1(*, *)]$ ,  
 $[[* \stackrel{claim}{=} *]]$ ,  $[checker]$ ,  $[check(*, *)]$ ,  $[check_2(*, *, *)]$ ,  $[check_3(*, *, *)]$ ,  
 $[check^*(*, *)]$ ,  $[check_2^*(*, *, *)]$ ,  $[[*]]$ ,  $[[*]^-]$ ,  $[[*]^\circ]$ ,  $[msg]$ ,  $[[* \stackrel{msg}{=} *]]$ ,  $[<stmt>]$ ,  
 $[stmt]$ ,  $[[* \stackrel{stmt}{=} *]]$ ,  $[HeadNil']$ ,  $[HeadPair']$ ,  $[Transitivity']$ ,  $[⊥]$ ,  $[Contra']$ ,  $[T'_E]$ ,  
 $[L_1]$ ,  $[*]$ ,  $[A]$ ,  $[B]$ ,  $[C]$ ,  $[D]$ ,  $[E]$ ,  $[F]$ ,  $[G]$ ,  $[H]$ ,  $[I]$ ,  $[J]$ ,  $[K]$ ,  $[L]$ ,  $[M]$ ,  $[N]$ ,  $[O]$ ,  $[P]$ ,  $[Q]$ ,  
 $[R]$ ,  $[S]$ ,  $[T]$ ,  $[U]$ ,  $[V]$ ,  $[W]$ ,  $[X]$ ,  $[Y]$ ,  $[Z]$ ,  $[[* \mid * := *]]$ ,  $[[* \mid * := *]]$ ,  $[\emptyset]$ ,  $[Remainder]$ ,  
 $[(*)^\vee]$ ,  $[intro(*, *, *, *)]$ ,  $[intro(*, *, *)]$ ,  $[error(*, *)]$ ,  $[error_2(*, *)]$ ,  $[proof(*, *, *)]$ ,  
 $[proof_2(*, *)]$ ,  $[S(*, *)]$ ,  $[S^1(*, *)]$ ,  $[S^\triangleright(*, *)]$ ,  $[S_1^\triangleright(*, *, *)]$ ,  $[S^{E}(*, *)]$ ,  $[S_1^E(*, *, *)]$ ,  
 $[S^+(*, *)]$ ,  $[S_1^+(*, *, *)]$ ,  $[S^-(*, *)]$ ,  $[S_1^-(*, *, *)]$ ,  $[S^*(*, *)]$ ,  $[S_1^*(*, *, *)]$ ,  
 $[S_2^*(*, *, *, *)]$ ,  $[S^\circ(*, *)]$ ,  $[S_1^\circ(*, *, *)]$ ,  $[S^+(*, *)]$ ,  $[S_1^+(*, *, *, *)]$ ,  $[S^{#}(*, *)]$ ,  
 $[S_1^{#}(*, *, *, *)]$ ,  $[S^{i.e.}(*, *)]$ ,  $[S_1^{i.e.}(*, *, *, *)]$ ,  $[S_2^{i.e.}(*, *, *, *, *)]$ ,  $[S^\vee(*, *)]$ ,  
 $[S_1^\vee(*, *, *, *)]$ ,  $[S^i(*, *)]$ ,  $[S_1^i(*, *, *, *)]$ ,  $[S_2^i(*, *, *, *, *)]$ ,  $[T(*)]$ ,  $[claims(*, *, *)]$ ,  
 $[claims_2(*, *, *)]$ ,  $[<proof>]$ ,  $[proof]$ ,  $[Lemma\ * : *]$ ,  $[Proof\ of\ * : *]$ ,  
 $[* \text{ lemma } * : *]$ ,  $[* \text{ antilemma } * : *]$ ,  $[* \text{ rule } * : *]$ ,  $[* \text{ antirule } * : *]$ ,  
 $[verifier]$ ,  $[\mathcal{V}_1(*)]$ ,  $[\mathcal{V}_2(*, *)]$ ,  $[\mathcal{V}_3(*, *, *, *)]$ ,  $[\mathcal{V}_4(*, *)]$ ,  $[\mathcal{V}_5(*, *, *, *)]$ ,  $[\mathcal{V}_6(*, *, *, *)]$ ,  
 $[\mathcal{V}_7(*, *, *, *)]$ ,  $[Cut(*, *)]$ ,  $[Head_\oplus(*)]$ ,  $[Tail_\oplus(*)]$ ,  $[rule_1(*, *)]$ ,  $[rule(*, *)]$ ,  
 $[Rule\ tactic]$ ,  $[Plus(*, *)]$ ,  $[Theory\ *]$ ,  $[theory_2(*, *)]$ ,  $[theory_3(*, *)]$ ,  
 $[theory_4(*, *, *)]$ ,  $[HeadNil'']$ ,  $[HeadPair'']$ ,  $[Transitivity'']$ ,  $[Contra'']$ ,  $[HeadNil]$ ,  
 $[HeadPair]$ ,  $[Transitivity]$ ,  $[Contra]$ ,  $[T_E]$ ,  $[ragged\ right]$ ,  
 $[ragged\ right\ expansion]$ ,  $[parm(*, *, *)]$ ,  $[parm^*(*, *, *)]$ ,  $[inst(*, *)]$ ,  
 $[inst^*(*, *)]$ ,  $[occur(*, *, *)]$ ,  $[occur^*(*, *, *)]$ ,  $[unify(* = *, *)]$ ,  $[unify^*( * = *, *)]$ ,  
 $[unify_2(* = *, *)]$ ,  $[L_a]$ ,  $[L_b]$ ,  $[L_c]$ ,  $[L_d]$ ,  $[L_e]$ ,  $[L_f]$ ,  $[L_g]$ ,  $[L_h]$ ,  $[L_i]$ ,  $[L_j]$ ,  $[L_k]$ ,  $[L_l]$ ,  $[L_m]$ ,  
 $[L_n]$ ,  $[L_o]$ ,  $[L_p]$ ,  $[L_q]$ ,  $[L_r]$ ,  $[L_s]$ ,  $[L_t]$ ,  $[L_u]$ ,  $[L_v]$ ,  $[L_w]$ ,  $[L_x]$ ,  $[L_y]$ ,  $[L_z]$ ,  $[L_A]$ ,  $[L_B]$ ,  $[L_C]$ ,  
 $[L_D]$ ,  $[L_E]$ ,  $[L_F]$ ,  $[L_G]$ ,  $[L_H]$ ,  $[L_I]$ ,  $[L_J]$ ,  $[L_K]$ ,  $[L_L]$ ,  $[L_M]$ ,  $[L_N]$ ,  $[L_O]$ ,  $[L_P]$ ,  $[L_Q]$ ,  $[L_R]$ ,  
 $[L_S]$ ,  $[L_T]$ ,  $[L_U]$ ,  $[L_V]$ ,  $[L_W]$ ,  $[L_X]$ ,  $[L_Y]$ ,  $[L_Z]$ ,  $[L_?]$ ,  $[Reflexivity]$ ,  $[Reflexivity_1]$ ,  
 $[Commutativity]$ ,  $[Commutativity_1]$ ,  $[<tactic>]$ ,  $[tactic]$ ,  $[[* \stackrel{tactic}{=} *]]$ ,  $[P(*, *, *)]$ ,  
 $[P^*(*, *, *)]$ ,  $[p_0]$ ,  $[conclude_1(*, *)]$ ,  $[conclude_2(*, *, *)]$ ,  $[conclude_3(*, *, *, *)]$ ,  
 $[conclude_4(*, *)]$ ,  $[check]$ ,  $[[* \stackrel{\circ}{=} *]]$ ,  $[RootVisible(*)]$ ,  $[A]$ ,  $[R]$ ,  $[C]$ ,  $[T]$ ,  $[L]$ ,  $[{*}]$ ,  $[*]$ ,  
 $[a]$ ,  $[b]$ ,  $[c]$ ,  $[d]$ ,  $[e]$ ,  $[f]$ ,  $[g]$ ,  $[h]$ ,  $[i]$ ,  $[j]$ ,  $[k]$ ,  $[l]$ ,  $[m]$ ,  $[n]$ ,  $[o]$ ,  $[p]$ ,  $[q]$ ,  $[r]$ ,  $[s]$ ,  $[t]$ ,  $[u]$ ,  $[v]$ ,  
 $[w]$ ,  $[x]$ ,  $[y]$ ,  $[z]$ ,  $[[* \equiv * \mid * := *]]$ ,  $[[* \equiv^0 * \mid * := *]]$ ,  $[[* \equiv^1 * \mid * := *]]$ ,  $[[* \equiv^* * \mid * := *]]$ ,  
 $[Ded(*, *)]$ ,  $[Ded_0(*, *)]$ ,  $[Ded_1(*, *, *)]$ ,  $[Ded_2(*, *, *)]$ ,  $[Ded_3(*, *, *, *)]$ ,  
 $[Ded_4(*, *, *, *)]$ ,  $[Ded_4^*(*, *, *, *)]$ ,  $[Ded_5(*, *, *)]$ ,  $[Ded_6(*, *, *, *)]$ ,  
 $[Ded_6^*(*, *, *, *)]$ ,  $[Ded_7(*)]$ ,  $[Ded_8(*, *)]$ ,  $[Ded_8^*(*, *)]$ ,  $[S]$ ,  $[Neg]$ ,  $[MP]$ ,  $[Gen]$ ,  
 $[Ded]$ ,  $[S1]$ ,  $[S2]$ ,  $[S3]$ ,  $[S4]$ ,  $[S5]$ ,  $[S6]$ ,  $[S7]$ ,  $[S8]$ ,  $[S9]$ ,  $[Repetition]$ ,  $[A1']$ ,  $[A2']$ ,  $[A4']$ ,  
 $[A5']$ ,  $[Prop\ 3.2a]$ ,  $[Prop\ 3.2b]$ ,  $[Prop\ 3.2c]$ ,  $[Prop\ 3.2d]$ ,  $[Prop\ 3.2e_1]$ ,  $[Prop\ 3.2e_2]$ ,  
 $[Prop\ 3.2e]$ ,  $[Prop\ 3.2f_1]$ ,  $[Prop\ 3.2f_2]$ ,  $[Prop\ 3.2f]$ ,  $[Prop\ 3.2g_1]$ ,  $[Prop\ 3.2g_2]$ ,  
 $[Prop\ 3.2g]$ ,  $[Prop\ 3.2h_1]$ ,  $[Prop\ 3.2h_2]$ ,  $[Prop\ 3.2h]$ ,  $[Block_1(*, *, *)]$ ,  $[Block_2(*)]$ ,  
 $[kvanti]$ ,  $[UniqueMember]$ ,  $[UniqueMember(Type)]$ ,  $[SameSeries]$ ,  $[A4]$ ,  
 $[SameMember]$ ,  $[Qclosed(Addition)]$ ,  $[Qclosed(Multiplication)]$ ,  
 $[FromCartProd(1)]$ ,  $[1rule\ from\ CartProd(2)]$ ,  $[constantRationalSeries(*)]$ ,

[cartProd(\*), [Power(\*)], [binaryUnion(\*, \*)], [SetOfRationalSeries],  
[IsSubset(\*, \*)], [(p\*, \*)], [(s\*)], [(· · ·)], [Objekt-var], [Ex-var], [Ph-var], [Vardi],  
[Variabel], [Op(\*)], [Op(\*, \*)], [\* ::= \*], [ContainsEmpty(\*)], [Nat(\*)],  
[Dedu(\*, \*)], [Dedu<sub>0</sub>(\*, \*)], [Dedu<sub>s</sub>(\*, \*, \*)], [Dedu<sub>1</sub>(\*, \*, \*)], [Dedu<sub>2</sub>(\*, \*, \*)],  
[Dedu<sub>3</sub>(\*, \*, \*, \*)], [Dedu<sub>4</sub>(\*, \*, \*, \*)], [Dedu<sub>4</sub><sup>\*</sup>(\*, \*, \*, \*)], [Dedu<sub>5</sub>(\*, \*, \*)],  
[Dedu<sub>6</sub>(\*, \*, \*, \*)], [Dedu<sub>6</sub><sup>\*</sup>(\*, \*, \*, \*)], [Dedu<sub>7</sub>(\*)], [Dedu<sub>8</sub>(\*, \*)], [Dedu<sub>8</sub><sup>\*</sup>(\*, \*)],  
[EX<sub>1</sub>], [EX<sub>2</sub>], [EX<sub>3</sub>], [EX<sub>10</sub>], [EX<sub>20</sub>], [\*<sup>Ex</sup>], [\*<sup>Ex</sup>], [(<sup>\*</sup>≡ \* | \* ::= \*)<sub>Ex</sub>],  
[(<sup>\*</sup>≡<sup>0</sup> \* | \* ::= \*)<sub>Ex</sub>], [(<sup>\*</sup>≡<sup>1</sup> \* | \* ::= \*)<sub>Ex</sub>], [(<sup>\*</sup>≡<sup>\*</sup> \* | \* ::= \*)<sub>Ex</sub>], [ph<sub>1</sub>], [ph<sub>2</sub>], [ph<sub>3</sub>],  
[\*<sub>Ph</sub>], [\*<sup>Ph</sup>], [(<sup>\*</sup>≡ \* | \* ::= \*)<sub>Ph</sub>], [(<sup>\*</sup>≡<sup>0</sup> \* | \* ::= \*)<sub>Ph</sub>], [(<sup>\*</sup>≡<sup>1</sup> \* | \* ::= \*)<sub>Ph</sub>],  
[(<sup>\*</sup>≡<sup>\*</sup> \* | \* ::= \*)<sub>Ph</sub>], [(<sup>\*</sup>≡ \* | \* ::= \*)<sub>Me</sub>], [(<sup>\*</sup>≡<sup>1</sup> \* | \* ::= \*)<sub>Me</sub>],  
[(<sup>\*</sup>≡<sup>\*</sup> \* | \* ::= \*)<sub>Me</sub>], [bs], [OBS], [BS], [∅], [SystemQ], [MP], [Gen], [Repetition],  
[Neg], [Ded], [ExistIntro], [Extensionality], [∅def], [PairDef], [UnionDef],  
[PowerDef], [SeparationDef], [AddDoubleNeg], [RemoveDoubleNeg],  
[AndCommutativity], [AutoImPLY], [Contrapositive], [FirstConjunct],  
[SecondConjunct], [FromContradiction], [FromDisjuncts], [IffCommutativity],  
[IffFirst], [IffSecond], [ImPLYTransitivity], [JoinConjuncts], [MP2], [MP3], [MP4],  
[MP5], [MT], [NegativeMT], [Technicality], [Weakening], [WeakenOr1],  
[WeakenOr2], [Formula2Pair], [Pair2Formula], [Formula2Union],  
[Union2Formula], [Formula2Sep], [Sep2Formula], [Formula2Power],  
[SubsetInPower], [HelperPowerIsSub], [PowerIsSub],  
[(Switch)HelperPowerIsSub], [(Switch)PowerIsSub], [ToSetEquality],  
[HelperToSetEquality(t)], [ToSetEquality(t)], [HelperFromSetEquality],  
[FromSetEquality], [HelperReflexivity], [Reflexivity], [HelperSymmetry],  
[Symmetry], [HelperTransitivity], [Transitivity], [ERisReflexive],  
[ERisSymmetric], [ERisTransitive], [∅isSubset], [HelperMemberNot∅],  
[MemberNot∅], [HelperUnique∅], [Unique∅], [= Reflexivity], [= Symmetry],  
[Helper == Transitivity], [= Transitivity], [HelperTransferNotEq],  
[TransferNotEq], [HelperPairSubset], [Helper(2)PairSubset], [PairSubset],  
[SamePair], [SameSingleton], [UnionSubset], [SameUnion], [SeparationSubset],  
[SameSeparation], [SameBinaryUnion], [IntersectionSubset], [SameIntersection],  
[AutoMember], [HelperEqSysNot∅], [EqSysNot∅], [HelperEqSubset],  
[EqSubset], [HelperEqNecessary], [EqNecessary], [HelperNoneEqNecessary],  
[Helper(2)NoneEqNecessary], [NoneEqNecessary], [EqClassIsSubset],  
[EqClassesAreDisjoint], [AllDisjoint], [AllDisjointImPLY], [BSsubset],  
[Union(BS/R)subset], [UnionIdentity], [EqSysIsPartition], [(x1)], [(x2)], [(y1)],  
[(y2)], [(v1)], [(v2)], [(v3)], [(v4)], [(v2n)], [(m1)], [(m2)], [(n1)], [(n2)], [(n3)], [(ε)],  
[(ε<sub>1</sub>)], [(ε<sub>2</sub>)], [(fep)], [(fx)], [(fy)], [(fz)], [(fu)], [(fv)], [(fw)], [(rx)], [(ry)], [(rz)],  
[(ru)], [(sx)], [(sx1)], [(sy)], [(sy1)], [(sz)], [(sz1)], [(su)], [(su1)], [(fxs)], [(fys)],  
[(crs1)], [(f1)], [(f2)], [(f3)], [(f4)], [(op1)], [(op2)], [(r1)], [(s1)], [(s2)], [X<sub>1</sub>], [X<sub>2</sub>],  
[Y<sub>1</sub>], [Y<sub>2</sub>], [V<sub>1</sub>], [V<sub>2</sub>], [V<sub>3</sub>], [V<sub>4</sub>], [V<sub>2n</sub>], [M<sub>1</sub>], [M<sub>2</sub>], [N<sub>1</sub>], [N<sub>2</sub>], [N<sub>3</sub>], [ε], [ε<sub>1</sub>], [ε<sub>2</sub>],  
[FX], [FY], [FZ], [FU], [FV], [FW], [FEP], [RX], [RY], [RZ], [RU], [(SX)], [(SX1)],  
[(SY)], [(SY1)], [(SZ)], [(SZ1)], [(SU)], [(SU1)], [FXS], [FYS], [(F1)], [(F2)], [(F3)],  
[(F4)], [(OP1)], [(OP2)], [(R1)], [(S1)], [(S2)], [(EPob)], [(CRS1ob)], [(F1ob)],  
[(F2ob)], [(F3ob)], [(F4ob)], [(N1ob)], [(N2ob)], [(OP1ob)], [(OP2ob)], [(R1ob)],  
[(S1ob)], [(S2ob)], [ph<sub>4</sub>], [ph<sub>5</sub>], [ph<sub>6</sub>], [NAT], [RATIONALSERIES], [SERIES],  
[SetOfReals], [SetOfFxs], [N], [Q], [X], [xs], [xaF], [ysF], [us], [usFoelge], [0], [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\*], [{\*}, [l\*], [\*}], [˘\*],  
**[Preassociative \*; \*], [Postassociative \*; \*], [[\*], \*], [priority \* end],**  
 [newline \*], [macro newline \*], [MacroIndent(\*)];

**Preassociative**

[\* ’ \*], [\* ‘ \*];

**Preassociative**

[\*(exp)\*];

**Preassociative**

[\*’], [R(\*)], [– – R(\*)], [rec\*];

**Preassociative**

[\*/\*], [\* ∩ \*], [\*[\*]];

**Preassociative**

[∪\*], [\* ∪ \*], [P(\*)];

**Preassociative**

[{\*}], [StateExpand(\*, \*, \*)], [extractSeries(\*)], [SetOfSeries(\*)], [– – Macro(\*)],  
 [ExpandList(\*, \*, \*)], [\* \* Macro(\*)], [+ + Macro(\*)], [<< Macro(\*)], [UB(\*, \*)],  
 [LUB(\*, \*)], [BS(\*, \*)], [UStelescope(\*, \*)], [(\*)], [r \* |], [Limit(\*, \*)], [Union(\*)],  
 [IsOrderedPair(\*, \*, \*)], [IsRelation(\*, \*, \*)], [isFunction(\*, \*, \*)], [IsSeries(\*, \*)],  
 [IsNatural(\*, \*)], [OrderedPair(\*, \*)], [TypeNat(\*)], [TypeNat0(\*)],  
 [TypeRational(\*)], [TypeRational0(\*)], [TypeSeries(\*, \*)], [Typeseries0(\*, \*)];

**Preassociative**

[{\*,\*}], [(<\*,\*)], [(-u\*)], [-f\*], [(- - \*)], [1f/\*], [1fny/\*], [01//temp\*];

**Preassociative**

[\* ∈ \*];

**Preassociative**

[\* · \*], [\* ·<sub>0</sub> \*], [(\*\* \*\*)], [\* \*<sub>f</sub> \*], [\* \* \* \*];

**Preassociative**

[\* + \*], [\* +<sub>0</sub> \*], [\* +<sub>1</sub> \*], [\* - \*], [\* -<sub>0</sub> \*], [\* -<sub>1</sub> \*], [(\* + \*)], [(\* - \*)], [\* +<sub>f</sub> \*],  
 [\* -<sub>f</sub> \*], [\* + + \*], [R(\*) - -R(\*)];

**Preassociative**

[| \* |], [if(\*, \*, \*)], [Max(\*, \*)], [Max(\*, \*)];

**Preassociative**

[\* = \*], [\* ≠ \*], [\* <= \*], [\* < \*], [\* <<sub>f</sub> \*], [\* ≤<sub>f</sub> \*], [SF(\*, \*)], [\* == \*],  
 [\*!! == \*], [\* << \*], [\* <<== \*], [\* << test\*];

**Preassociative**

[\* ∪ {\*}], [\* ∪ \*], [\* \ {\*}];

**Postassociative**

[\* .: \*], [\* .: \*], [\* :: \*], [\* +2\* \*], [\* :: \*], [\* +2\* \*];

**Postassociative**

[\*, \*];

**Preassociative**

[\* <sup>B</sup> ≈ \*], [\* <sup>D</sup> ≈ \*], [\* <sup>C</sup> ≈ \*], [\* <sup>P</sup> ≈ \*], [\* ≈ \*], [\* = \*], [\*  $\dashv$  \*], [\*  $\stackrel{t}{=}$  \*], [\*  $\stackrel{t}{=}^*$  \*], [\*  $\stackrel{r}{=}$  \*],  
 [\* ∈<sub>t</sub> \*], [\* ⊆<sub>T</sub> \*], [\*  $\stackrel{T}{=}$  \*], [\*  $\stackrel{s}{=}$  \*], [\* free in \*], [\* free in\* \*], [\* free for \* in \*],  
 [\* free for\* \* in \*], [\* ∈<sub>c</sub> \*], [\* < \*], [\* <’ \*], [\* ≤’ \*], [\* = \*], [\* ≠ \*], [\*<sup>var</sup>],

$[* \#^0 *], [* \#^1 *], [* \# * *], [* == *], [* \subseteq *];$

**Preassociative**

$[\neg *], [\neg (*n)], [* \notin *], [* \neq *];$

**Preassociative**

$[* \wedge *], [* \ddot{\wedge} *], [* \tilde{\wedge} *], [* \wedge_c *], [* \dot{\wedge} *];$

**Preassociative**

$[* \vee *], [* \parallel *], [* \ddot{\vee} *];$

**Postassociative**

$[* \dot{\vee} *];$

**Preassociative**

$[\exists *: *], [\forall *: *], [\forall_{\text{Obj}} *: *], [\exists *: *];$

**Postassociative**

$[* \dot{\Rightarrow} *], [* \Rightarrow *], [* \Leftrightarrow *], [* \dot{\Leftrightarrow} *];$

**Preassociative**

$[\{\text{ph} \in * \mid *\}];$

**Postassociative**

$[* : *], [* \text{ spy } *], [* ! *];$

**Preassociative**

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

**Preassociative**

$[\lambda * . *], [\Lambda * . *], [\Lambda *], [\text{if } * \text{ then } * \text{ else } *], [\text{let } * = * \text{ in } *], [\text{let } * \dot{=} * \text{ in } *];$

**Preassociative**

$[* \# *];$

**Preassociative**

$[*^I], [*^\triangleright], [*^V], [*^+], [*^-], [*^*];$

**Preassociative**

$[* @ *], [* \triangleright *], [* \blacktriangleright *], [* \gg *], [* \triangleright *];$

**Postassociative**

$[* \vdash *], [* \Vdash *], [* \text{ i.e. } *];$

**Preassociative**

$[\forall *: *], [\text{II} *: *];$

**Postassociative**

$[* \oplus *];$

**Postassociative**

$[* , *];$

**Preassociative**

$[* \text{ proves } *];$

**Preassociative**

$[* \text{ proof of } * : *], [\text{Line } * : * \gg *; *], [\text{Last line } * \gg * \square],$   
 $[\text{Line } * : \text{Premise } \gg *; *], [\text{Line } * : \text{Side-condition } \gg *; *], [\text{Arbitrary } \gg *; *],$   
 $[\text{Local } \gg * = *; *], [\text{Begin } *; * : \text{End}; *], [\text{Last block line } * \gg *; *],$   
 $[\text{Arbitrary } \gg *; *];$

**Postassociative**

$[* \mid *];$

**Postassociative**

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

**Preassociative**

[\*&\*];

**Preassociative**

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

## A Pyk definitioner

([<< testMacro(\*)  $\xrightarrow{\text{pyk}}$  "<<testMacro( " )"]

[Tester1  $\xrightarrow{\text{pyk}}$  "tester1"]

[Tester2  $\xrightarrow{\text{pyk}}$  "tester2"]

[Tester3  $\xrightarrow{\text{pyk}}$  "tester3"]

[Tester4  $\xrightarrow{\text{pyk}}$  "tester4"]

[Tester5  $\xrightarrow{\text{pyk}}$  "tester5"]

[Tester6  $\xrightarrow{\text{pyk}}$  "tester6"]

[\* << test\*  $\xrightarrow{\text{pyk}}$  "" <<test ""]

[prove  $\xrightarrow{\text{pyk}}$  "prove"]

)**P**

[prove <sup>tex</sup> ≡ “prove”]

[Tester1 <sup>tex</sup> ≡ “Tester1”]

[Tester2 <sup>tex</sup> ≡ “Tester2”]

[Tester3 <sup>tex</sup> ≡ “Tester3”]

[Tester4 <sup>tex</sup> ≡ “Tester4”]

[Tester5 <sup>tex</sup> ≡ “Tester5”]

[Tester6 <sup>tex</sup> ≡ “Tester6”]