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List of Symbols and Notationsa) Variables used in object languages and in the metalanguage

a, \dots, e	Individual (free)	3
t, x, y, z	" (bound)	3
A, \dots, E, G, H	Predicate (free)	3
P, Q, R, S	" (bound)	3
$\underline{a}^n, \underline{a}, \dots$	Tuples	3
$\natural, \dots, \mathcal{N}$	Natural numbers	3, 4
$\underline{\natural}^n, \underline{\natural}, \dots$	Tuples	3, 104
$\underline{\natural}^n, \underline{\natural}, \dots$	Constant tuples	104
I, \dots, N	Sets of natural numbers	4
α	Terms	4
$\alpha, \mathcal{L}, \dots$	Formulae	4
$\underline{\alpha}^n, \underline{\alpha}, \dots$	Tuples	9
X, Y, Z, X^n, \dots	States	26
u, v, w	Words	29
U, V, W	Sets of words	29
φ, χ, ψ	Threads	26
Φ, χ, Ψ	Sets of Threads	26
\mathcal{F}	Finite automata	87
S, T	Theories	115

All variables may be indexed.

b) Constants, special symbols

$=, o, ', <, +, \omega, \exists (n)$	Number theoretic symbols	3, 6, 7, 122
$\wedge, \vee, \neg, \rightarrow, \leftrightarrow, =, \forall, \exists, T, F$	Logical symbols	3, 5
$[,], \underline{\quad}, \overline{\quad}, \dots$	Brackets and dots for bracketing of	3
$\cdot, :, \dot{\quad}, \dots$	formulae, for quantifiers and argu-	3
$(,), [,]$	ments of predicate variables and	3, 4
	formulae	
$(\exists t)_a^b, (\forall t)_a^b, (\exists t)_a, (\forall t)_a,$ $(\exists^{\omega} t), (\forall^{\omega} t), (\exists P)^{\omega}$	Specialized quantifiers	6
$(\exists t)^a, (\forall t)^a, (\exists_{\omega} t), (\forall_{\omega} t),$ $(\exists P)_{\omega}$	"	122
$\frac{b}{a}, \frac{b}{a}, \frac{b}{a}$	Relations on predicates	76
$<$	Ordering on the set of states	76
$<_M$	" on a set M	78

c) Formulae, rules and schemata

(COMP)	Principle of comprehension	5
(EXT)	" of extensionality	5
(R)	Course-of-value recursion	11
(REXT)	Restricted principle of extensionality	11
(RR)	Primitive recursion	88
(SP)	Substitution rule for predicate variables	4
\equiv	Semiotic equality of formulae	4

d) Classes of formulae

$\Sigma^0, \tilde{\Sigma}^0$	28;	$\Sigma_w, \tilde{\Sigma}_w, \Pi_w, \tilde{\Pi}_w$	100
Σ_0	123;	$\Sigma_w^\omega, \tilde{\Sigma}_w^\omega, \Pi_w^\omega, \tilde{\Pi}_w^\omega$	23
$\Sigma_{\mathbb{R}}^0, \tilde{\Sigma}_{\mathbb{R}}^0$	31;	$\Sigma_w^{\omega^*+\omega}, \tilde{\Pi}_w^{\omega^*+\omega}$	123
$\Sigma_0^{\mathbb{R}}$	124;	$\Sigma_{\omega, \omega}^\omega$	103

e) Interpretation

\mathbb{N}	Set of natural numbers	7
\mathbb{Z}	" of integers	122
$\cup, \cap, \{\}, \subseteq$	Set-theoretical symbols	v
$\mathbb{P}(M)$	Set of all subsets of M	v
$\mathbb{P}_w(M)$	" " " w -element subsets of M	14
$\mathbb{P}_{fin}(M)$	" " " finite " " "	117
$\mathbb{P}_{uper}(\mathbb{N})$	" " " u.p. " " \mathbb{N}	115
O_w	" " w -states	26
T_w	" " w -words	29
S_w	" " w -threads	26
$T(\mathcal{f})$	" " words accepted by a Σ^0 -formula $\mathcal{f}(\underline{A})$	29
$T(\mathcal{T})$	" " " " by an automaton \mathcal{T}	88
$S(\mathcal{f})$	" " threads satisfying $\mathcal{f}(\underline{A})$	27
$N(\mathcal{f})$	" " w -numbers satisfying $\mathcal{f}(\underline{a})$	103
DT_w	" " definable sets of words	89
ADT_w	" " automaton-definable sets of words	89
DS_w	" " definable sets of threads	94
$\underline{T}^w, \underline{F}^w$	Constant w -states	26
\wedge	Empty word	29
$L(\mathcal{f})$	Number of predicate quantifiers in \mathcal{f}	57

f) Theories and systems

CO	Elementary theory of congruence and order	
P	" " of addition	
COP	Monadic first order theory of congruence and order	97
SC	Monadic second order theory of successor	6
SC \mathbb{Z}	Monadic second order theory of successor over the integers	122
SC _{fin} , W2A	Variants of SC	117
SC _{qfin} , L ₁ ³	Variants of SC	120
SC _{per}	Variants of SC	116
SC _{fin} ^ℤ , SC _{qfin} ^ℤ , L ₁ ² , L ₁ ⁴	Variants of SC \mathbb{Z}	124