

## Equation assignment sequence for variable $i$

no	var	equ	quations	token
84	12	-	$S_N :: \text{port variable}$	
83	26	-	$A^v :: \text{port variable}$	
82	64	-	$P_{NS,KS} :: \text{port variable}$	
81	9	-	$r_{xN} :: \text{port variable}$	
80	88	-	$K^o_K :: \text{port variable}$	
79	62	-	$P_{N,NK} :: \text{port variable}$	
78	127	-	$D_{N,A} :: \text{port variable}$	
77	23	-	$r_{zN} :: \text{port variable}$	
76	10	-	$r_{yN} :: \text{port variable}$	
75	86	-	$N_{S,K} :: \text{port variable}$	
74	61	-	$P_{S,NS} :: \text{port variable}$	
73	60	-	$P_{K,NK} :: \text{port variable}$	
72	63	-	$P_{NK,KS} :: \text{port variable}$	
71	59	-	$P_{NS,AS} :: \text{port variable}$	
70	5	-	$F_{N,A} :: \text{port variable}$	
69	128	-	$D_{NS,AS} :: \text{port variable}$	
68	164	-	$1_{NS} :: \text{port variable}$	
67	13	-	$V_N :: \text{port variable}$	
66	177	-	$P_{N,NS} :: \text{port variable}$	

*Continued on next page*

no	var	equ	quations	token
65	11	-	$U_N :: \text{port variable}$	
64	1	-	$\# :: \text{port variable}$	
63	170	-	$1_N :: \text{port variable}$	
62	6	-	$t :: \text{port variable}$	
61	159	-	$C_N :: \text{port variable}$	
60	171	-	$1_A :: \text{port variable}$	
59	27	16	$Bo_N := \text{Instantiate}(S_N, \#)$	
58	69	47	$m_N := \lambda_S \overset{S \in NS}{\star} n_{NS}$	
57	29	142	$\lambda_S := \text{Instantiate}(\lambda_S, \#)$	
56	16	7	$T_N := \frac{\partial U_N}{\partial S_N}$	
55	16	113	$T_N := \text{Instantiate}(T_N, \#)$	
54	87	64	$E_{a_{NK}} := \text{Instantiate}(P_{N,NK} \overset{N}{\star} R_N . T_{NK}, \#)$	
53	28	17	$R_N := A^v . Bo_N$	
52	115	91	$c^o_{KS} := \text{Instantiate}(c_{KS}, \#)$	
51	114	90	$c_{KS} := c_{NS} \overset{NS}{\star} P_{NS,KS}$	
50	71	154	$\rho_N := \text{Instantiate}(\rho_N, \#)$	
49	71	49	$\rho_N := m_N . (V_N)^{-1}$	
48	50	134	$k^c_{xN} := \text{Instantiate}(k^c_{xN}, \#)$	
47	50	37	$k^c_{xN} := \left( \lambda_S \overset{S \in NS}{\star} (\mu_{NS})^{-1} \right) . (V_N)^{-1} . \frac{\partial U_N}{\partial p_N} . v_{xN}$	
46	15	6	$p_N := \left( -\frac{\partial U_N}{\partial V_N} \right)$	

*Continued on next page*

no	var	equ	quations	token
45	15	115	$p_N := \text{Instantiate}(p_N, \#)$	
44	65	46	$d_A := \text{sign} \left( F_{N,A} \overset{N}{\star} p_N \right)$	
43	4	3	$0.5 := \text{Instantiate}(\#, \#)$	
42	21	12	$v_{xN} := \frac{\partial r_{xN}}{\partial t}$	
41	77	55	$T_{NK} := P_{N,NK} \overset{N}{\star} T_N$	
40	89	65	$K_{NK} := K^o_K \odot \exp((-E_{aNK}) \cdot (R_N \overset{N}{\star} P_{N,NK} \cdot T_{NK})^{-1})$	
39	116	92	$\phi_{KS} := \prod (c_{KS} \cdot (c^o_{KS})^{-1})$	
38	98	74	$\hat{V}_A := (\rho_N)^{-1} \cdot k_{xN}^c \cdot A_{yzN} \cdot D_{N,A} \overset{N}{\star} p_N$	
37	109	85	$c_{AS} := (0.5 \cdot (F_{NS,AS} - d_A \odot  F_{NS,AS} )) \overset{NS}{\star} c_{NS}$	
36	95	71	$A_{yzN} := r_{yN} \cdot r_{zN}$	
35	54	137	$k_{xNS}^d := \text{Instantiate}(k_{xNS}^d, \#)$	
34	54	41	$k_{xNS}^d := (\mu_{NS})^{-1} \cdot \left( v_{xN} \odot \left( (V_N)^{-1} \odot \frac{\partial U_N}{\partial \mu_{NS}} \right) \right)$	
33	45	114	$\mu_{NS} := \text{Instantiate}(\mu_{NS}, \#)$	
32	45	32	$\mu_{NS} := \frac{\partial U_N}{\partial n_{NS}}$	
31	93	69	$N_{NS,NK} := P_{S,NS} \overset{S}{\star} \left( (P_{K,NK} \cdot T_{NK} \cdot (T_{NK})^{-1}) \overset{K}{\star} N_{S,K} \right)$	
30	117	93	$\xi_{NK} := K_{NK} \cdot P_{NK,KS} \overset{KS}{\star} \phi_{KS}$	
29	110	86	$\hat{n}_{AS}^c := \hat{V}_A \odot c_{AS}$	
28	73	51	$F_{NS,AS} := F_{N,A} \odot P_{NS,AS}$	
27	104	80	$\hat{n}_{AS}^d := A_{yzN} \odot (-k_{xNS}^d) \cdot D_{NS,AS} \overset{NS}{\star} \mu_{NS}$	
26	118	94	$\tilde{n}_{NS} := V_N \odot \left( N_{NS,NK} \overset{NK}{\star} \xi_{NK} \right)$	

Continued on next page

no	var	equ	quations	token
25	111	87	$\hat{n}_{NS}^c := F_{NS,AS} \overset{AS}{\star} \hat{n}_{AS}^c$	
24	105	81	$\hat{n}_{NS}^d := F_{NS,AS} \overset{AS}{\star} \hat{n}_{AS}^d$	
23	2	1	$0 := \text{Instantiate}(\#, \#)$	
22	8	5	$t_e := \text{Instantiate}(t, \#)$	
21	7	4	$t_o := \text{Instantiate}(t, \#)$	
20	150	124	$n_{NS}^o := \text{Instantiate}(n_{NS}, \#)$	
19	119	95	$\dot{n}_{NS} := \hat{n}_{NS}^c + \hat{n}_{NS}^d + \tilde{n}_{NS}$	
18	119	129	$\dot{n}_{NS} := \text{Instantiate}(\dot{n}_{NS}, 0)$	
17	42	116	$n_{NS} := \int_{t_o}^{t_e} \dot{n}_{NS} dt + n_{NS}^o$	
16	165	161	$n_N^t := 1_{NS} \overset{S \in NS}{\star} c_{NS}$	
15	108	127	$c_{NS} := \text{Instantiate}(c_{NS}, \#)$	
14	108	84	$c_{NS} := (V_N)^{-1} \odot n_{NS}$	
13	183	179	$i_{NS} := P_{N,NS} \overset{N}{\star} i_N$	
12	191	194	$k_N^{e,\xi} := \text{Instantiate}(k_N^{e,\xi}, \#)$	
11	166	162	$\xi_{NS} := (n_N^t)^{-1} \odot c_{NS}$	
10	185	181	$k_N^{e,\xi} := (U_N^e)^{-1} \cdot \left( i_{NS} \overset{S \in NS}{\star} \ln(\xi_{NS}) \right)$	
9	182	195	$k_N^e := k_N^{e,\xi} \overset{S \in NS}{\star} \xi_{NS}$	
8	182	178	$k_N^e := i_N \cdot (U_N^e)^{-1}$	
7	160	182	$U_N^e := (k_N^{e,\xi})^{-1} \cdot i_N$	
6	160	156	$U_N^e := (C_N)^{-1} \cdot U_N$	

Continued on next page

no	var	equ	quations	token
5	160	177	$U^e_N := \text{Instantiate}(U^e_N, \#)$	
4	173	197	$i_N := 1_N . i$	
3	173	196	$i_N := k^e_N . U^e_N$	
2	173	168	$i_N := \frac{dC_N}{dt}$	
1	187	198	$i := \text{Root}(i_N)$	
0	188	191	$i_A := 1_A . i$	