

An Event-B Specification of SimpleTheoryTest

This model tests a machine that uses a theory that in turn uses another theory.

1	MACHINE LePond	2
1.1	<i>fish fush</i>	2
2	THEORY Crabs	3
2.1	Crustean $\langle T \rangle$ nilfishconshel	3
2.2	<i>leftcomp</i> <i>oright</i>	3
2.3	<i>yesbox</i> (<i>a</i>)	3
2.4	<i>inc</i> (<i>a</i>)	3
3	THEORY Fishes	4
3.1	Salmon $\langle T \rangle$ LeBigFishLeSmallFish	4
3.2	Bass $\langle T \rangle$ bosonoson	4
3.3	<i>aaddob</i>	4

VARIABLES

1.1

fish Where is the fishy fish?
fush Where did that fish go?

INVARIANTS

inv1: *fish* ∈ Salmon(\mathbb{Z}) Invariant 1 comment
inv2: *fush* ∈ Salmon(Crustean(BOOL)) Invariant 2 comment

EVENT INITIALISATION

THEN

act1: *fish* := LeBigFish Constructor makes Salmon(\mathbb{Z})
act2: *fush* := LeBigFish Constructor make Salmon(Crustean(BOOL))

END

DEPLOYED THEORY Crabs T	139699E14454CC343C86B45D3BB41D64	2
DATATYPE Crustean<T>		2.1
nilfish		
conshel		
OPERATOR compo		2.2
OPERATOR yesbox		2.3
OPERATOR inc		2.4
END		

DEPLOYED THEORY Fishes T	C00A26B28581228CB8AA241CE776224D	3
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IMPORTS Crabs		
DATATYPE Salmon<T>		3.1
LeBigFish		
LeSmallFish		
DATATYPE Bass<T>		3.2
boson		
oson		
OPERATOR addo		3.3
THEOREMS		
thm1: 1 ∈ ℕ		
thm2: (LeBigFish ∘ Salmon<T>) ∈ Salmon<T>		
thm3: ⊤		
END		

Crabs, 4
Crabs T, 3

fish, 2
Fishes T, 4
fush, 2

INITIALISATION, 2

LePond, 2