Simulink Design Verifier Report

ae2e3/Chart

attit

Simulink Design Verifier Report: ae2e3/Chart

attit

Publication date 25-Nov-2022 21:05:10

Table of Contents

Chapter 1. Summary

Analysis Information.

Model:	ae2e3
Release:	R2022a Update 5
Analyzed Subsystem:	ae2e3/Chart
Checksum:	2555612038 2213538726 3978229151 3942368965
Mode:	Test generation
Model Representation:	Built on 25-Nov-2022 20:43:15
Test Generation Target:	Model
Status:	Stopped by user
PreProcessing Time:	6s
Analysis Time:	1303s

Objectives Status.

Number of Objectives:	**110**	
Objectives Satisfied:	101	(92%)
Objectives Unsatisfiable:	2	(2%)
Objectives Undecided when the Analysis was Stopped:	7	(6%)

Chapter 2. Analysis Information

Table of Contents

Model Information

File:	ae2e3
Version:	1.3
Time Stamp:	Fri Nov 25 18:28:44 2022
Author:	attit

Analysis Options

Mode:	TestGeneration
Rebuild Model Representation:	IfChangeIsDetected
Test Generation Target:	Model
Test Suite Optimization:	Auto
Maximum Testcase Steps:	10000time steps
Test Conditions:	UseLocalSettings
Test Objectives:	UseLocalSettings
Model Coverage Objectives:	ConditionDecision
Add tests for the missing coverage:	off
Include Relational Boundary Objectives:	off
Maximum Analysis Time:	4000s
Block Replacement:	off
Parameters Analysis:	off
Include expected output values:	off
Randomize data that do not affect the outcome:	off
Additional analysis to reduce instances of rational approximation:	on
Save Data:	on
Save Harness:	off
Save Report:	off

User Artifacts

Coverage Data:	n/a
Test Data:	n/a

Constraints

Design Min Max Constraints

Name	Design Min Max Constraint
Pos_input	[1..4]

Chapter 3. Test Objectives Status

Table of Contents

Objectives Satisfied

Simulink Design Verifier generated test cases that exercise these test objectives.

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
1	Decision	Chart	trigger edge occurred **true**	4	1 [0]
2	Decision	Chart	trigger edge occurred **false**	4	1 [0]
3	Condition	Chart	SubSystem: trigger(1) edge occurred **true**	28	2 [0]
4	Condition	Chart	SubSystem: trigger(1) edge occurred **false**	4	1 [0]
5	Condition	Chart	SubSystem: trigger(2) edge occurred **true**	4	1 [0]
6	Condition	Chart	SubSystem: trigger(2) edge occurred **false**	4	1 [0]
7	Condition	Chart	SubSystem: trigger(3) edge occurred **true**	29	18 [0]
8	Condition	Chart	SubSystem: trigger(3) edge occurred **false**	4	1 [0]
9	Condition	Chart	SubSystem: trigger(4) edge occurred **true**	29	3 [0]
10	Condition	Chart	SubSystem: trigger(4) edge occurred **false**	4	1 [0]
11	Condition	Chart	SubSystem: trigger(5) edge occurred **true**	29	13 [0]
12	Condition	Chart	SubSystem: trigger(5) edge occurred **false**	4	1 [0]
13	Condition	Chart	SubSystem: trigger(6) edge occurred **true**	31	7 [0]
14	Condition	Chart	SubSystem: trigger(6) edge occurred **false**	4	1 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
15	Condition	Chart	SubSystem: trigger(7) edge occurred **true**	31	4 [0]
16	Condition	Chart	SubSystem: trigger(7) edge occurred **false**	4	1 [0]
17	Decision	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	trigger expression **true**	34	4 [0]
18	Decision	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	trigger expression **false**	4	1 [0]
19	Condition	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	F1_evt **true**	34	4 [0]
20	Condition	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	F1_evt **false**	4	1 [0]
21	Condition	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	Floor_1~=1 **true**	34	4 [0]
22	Condition	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	Floor_1~=1 **false**	43	14 [0]
23	Decision	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	trigger expression **true**	34	4 [0]
24	Decision	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	trigger expression **false**	4	1 [0]
25	Condition	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	F2_evt **true**	34	4 [0]
26	Condition	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	F2_evt **false**	4	1 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
27	Condition	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	Floor_2~=1 **true**	34	4 [0]
28	Condition	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	Floor_2~=1 **false**	41	11 [0]
29	Decision	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	trigger expression **true**	4	1 [0]
30	Decision	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	trigger expression **false**	34	4 [0]
31	Condition	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	F3_evt **true**	4	1 [0]
32	Condition	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	F3_evt **false**	34	4 [0]
33	Condition	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	Floor_3~=1 **true**	4	1 [0]
34	Condition	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	Floor_3~=1 **false**	45	17 [0]
35	Decision	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	trigger expression **true**	34	4 [0]
36	Decision	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	trigger expression **false**	34	4 [0]
37	Condition	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	F4_evt **true**	34	4 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
38	Condition	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	F4_evt **false**	34	4 [0]
39	Condition	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	Floor_4~=1 **true**	34	4 [0]
40	Condition	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	Floor_4~=1 **false**	41	12 [0]
42	Decision	State "LiftAlgorithm"	Substate executed **"DOOR_WAIT"**	38	6 [0]
43	Decision	State "LiftAlgorithm"	Substate executed **"MOTOR_ON"**	34	4 [0]
44	Decision	State "LiftAlgorithm"	Substate executed **"REQUESTED_FLOOR_FOUND"**	41	10 [0]
45	Decision	State "LiftAlgorithm"	Substate executed **"REQUEST_ACCEPTED"**	34	4 [0]
46	Decision	State "LiftAlgorithm"	Substate executed **"WAIT"**	4	1 [0]
52	Decision	Transition "[after(5,sec)]" from "DOOR_WAIT" to "DOOR_DONE"	expression "after(5,sec)" **false**	38	6 [0]
53	Decision	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"	trigger expression **true**	39	8 [0]
54	Decision	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"	trigger expression **false**	34	4 [0]
55	Condition	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"	1==ValidFloor(Pos_input) **true**	39	8 [0]
56	Condition	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"	1==ValidFloor(Pos_input) **false**	34	4 [0]
57	Condition	Transition "[1==ValidFloor(Pos_input)&&..."	1==any(Queue(:)==round(Pos_input)) **true**	39	8 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
		from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"			
58	Condition	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"	1==any(Queue(:)==round(Pos_input)) **false**	39	9 [0]
59	Decision	Transition "[abs(Direction-Pos_input)<0..." from "REQUESTED_FLOOR_FOUND" to "DOOR_WAIT"	expression "abs(Direction-Pos_input)<0.1" **true**	41	12 [0]
60	Decision	Transition "[abs(Direction-Pos_input)<0..." from "REQUESTED_FLOOR_FOUND" to "DOOR_WAIT"	expression "abs(Direction-Pos_input)<0.1" **false**	41	10 [0]
61	Decision	Transition "[Direction~=Pos_input]" from "REQUEST_ACCEPTED" to "MOTOR_ON"	expression "Direction~=Pos_input" **true**	34	4 [0]
62	Decision	Transition "[Direction~=Pos_input]" from "REQUEST_ACCEPTED" to "MOTOR_ON"	expression "Direction~=Pos_input" **false**	38	6 [0]
63	Decision	Transition "[Direction==Pos_input]{Dire..." from "REQUEST_ACCEPTED" to "DOOR_WAIT"	expression "Direction==Pos_input" **true**	38	6 [0]
65	Decision	Transition "[PressCount>0]{Direction=Qu..." from "WAIT" to "REQUEST_ACCEPTED"	expression "PressCount>0" **true**	4	1 [0]
66	Decision	Transition "[PressCount>0]{Direction=Qu..." from "WAIT" to "REQUEST_ACCEPTED"	expression "PressCount>0" **false**	34	4 [0]
67	Decision	State "ElevatorUnitControl"	Substate executed **"GO_DOWN"**	34	4 [0]
68	Decision	State "ElevatorUnitControl"	Substate executed **"GO_UP"**	47	18 [0]
69	Decision	State "ElevatorUnitControl"	Substate executed **"HALT"**	38	7 [0]
70	Decision	State "ElevatorUnitControl"	Substate executed **"OFF"**	4	1 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
71	Decision	Transition "[Emergency]" from "GO_DOWN" to Junction #32	expression "Emergency" **true**	38	7 [0]
72	Decision	Transition "[Emergency]" from "GO_DOWN" to Junction #32	expression "Emergency" **false**	34	4 [0]
73	Decision	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF"	expression "~in(LiftAlgorithm.MOTOR_ON)" **true**	42	13 [0]
74	Decision	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF"	expression "~in(LiftAlgorithm.MOTOR_ON)" **false**	34	4 [0]
75	Condition	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF"	in(LiftAlgorithm.MOTOR_ON) **true**	34	4 [0]
76	Condition	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF"	in(LiftAlgorithm.MOTOR_ON) **false**	42	13 [0]
77	Decision	Transition "[Emergency]" from "GO_UP" to Junction #33	expression "Emergency" **true**	245	19 [0]
78	Decision	Transition "[Emergency]" from "GO_UP" to Junction #33	expression "Emergency" **false**	47	18 [0]
79	Decision	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	expression "~in(LiftAlgorithm.MOTOR_ON)" **true**	271	20 [0]
80	Decision	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	expression "~in(LiftAlgorithm.MOTOR_ON)" **false**	47	18 [0]
81	Condition	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	in(LiftAlgorithm.MOTOR_ON) **true**	47	18 [0]
82	Condition	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	in(LiftAlgorithm.MOTOR_ON) **false**	271	20 [0]
83	Decision	Transition "[Start]" from "HALT" to "OFF"	expression "Start" **true**	39	9 [0]
84	Decision	Transition "[Start]" from "HALT" to "OFF"	expression "Start" **false**	38	7 [0]
85	Decision	Transition "[in(LiftAlgorithm.MOTOR_ON)]" from "OFF" to Junction #30	expression "in(LiftAlgorithm.MOTOR_ON)" **true**	34	4 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
86	Decision	Transition "[in(LiftAlgorithm.MOTOR_ON)]" from "OFF" to Junction #30	expression "in(LiftAlgorithm.MOTOR_ON)" **false**	4	1 [0]
87	Decision	Transition "[Direction<Pos_input]" from Junction #30 to "GO_DOWN"	expression "Direction<Pos_input" **true**	34	4 [0]
88	Decision	Transition "[Direction<Pos_input]" from Junction #30 to "GO_DOWN"	expression "Direction<Pos_input" **false**	36	5 [0]
89	Decision	Transition "[Emergency]" from "OFF" to "HALT"	expression "Emergency" **true**	44	16 [0]
90	Decision	Transition "[Emergency]" from "OFF" to "HALT"	expression "Emergency" **false**	4	1 [0]
91	Decision	Transition "[Direction>Pos_input]" from Junction #30 to Junction #31	expression "Direction>Pos_input" **true**	36	5 [0]
93	Decision	Transition "[pos == 1]" from Junction #19 to Junction #14	expression "pos == 1" **true**	44	15 [0]
94	Decision	Transition "[pos == 1]" from Junction #19 to Junction #14	expression "pos == 1" **false**	38	6 [0]
95	Decision	Transition "[pos == 2]" from Junction #26 to Junction #11	expression "pos == 2" **true**	38	6 [0]
96	Decision	Transition "[pos == 2]" from Junction #26 to Junction #11	expression "pos == 2" **false**	41	10 [0]
97	Decision	Transition "[pos == 3]" from Junction #21 to Junction #28	expression "pos == 3" **true**	41	10 [0]
98	Decision	Transition "[pos == 3]" from Junction #21 to Junction #28	expression "pos == 3" **false**	41	11 [0]
99	Decision	Transition "[pos == 4]" from Junction #20 to Junction #17	expression "pos == 4" **true**	41	11 [0]
101	Decision	Transition "[abs(indx-1.0)<0.1 || abs(ind..." from Junction #8 to Junction #10	trigger expression **true**	39	8 [0]

#	Type	Model Item	Description	Analysis Time (sec)	Test Case
102	Decision	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	trigger expression **false**	34	4 [0]
103	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-1.0)<0.1 **true**	43	14 [0]
104	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-1.0)<0.1 **false**	34	4 [0]
105	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-2.0)<0.1 **true**	41	10 [0]
106	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-2.0)<0.1 **false**	34	4 [0]
107	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-3.0)<0.1 **true**	39	9 [0]
108	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-3.0)<0.1 **false**	34	4 [0]
109	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-4.0)<0.1 **true**	39	8 [0]
110	Condition	Transition "[abs(indx-1.0)<0.1|| abs(ind..." from Junction #8 to Junction #10	abs(indx-4.0)<0.1 **false**	34	4 [0]

Objectives Unsatisfiable

Simulink Design Verifier proved these test objectives to be unreachable by any test case. This often indicates the presence of dead logic in the model. This can be a side effect of parameter configurations or minimum and maximum constraints specified on inputs. In Test Generation, this can also be a result of constraints resulting from Test Condition blocks.

#	Type	Model Item	Description	Analysis Time (sec)
50	Decision	Transition "[Direction==0]" from "DOOR_DONE" to Junction #6	expression "Direction==0" **false**	10
64	Decision	Transition "[Direction==Pos_input]{Dire..." from "REQUEST_ACCEPTED" to "DOOR_WAIT"	expression "Direction==Pos_input" **false**	10

Objectives Undecided when the Analysis was Stopped

Simulink Design Verifier was not able to process these objectives with the current options.

#	Type	Model Item	Description	Analysis Time (sec)
41	Decision	State "LiftAlgorithm"	Substate executed **"DOOR_DONE"**	-1
47	Decision	Transition "[Direction~=0]" from "DOOR_DONE" to Junction #4	expression "Direction~=0" **true**	-1
48	Decision	Transition "[Direction~=0]" from "DOOR_DONE" to Junction #4	expression "Direction~=0" **false**	-1
49	Decision	Transition "[Direction==0]" from "DOOR_DONE" to Junction #6	expression "Direction==0" **true**	-1
51	Decision	Transition "[after(5,sec)]" from "DOOR_WAIT" to "DOOR_DONE"	expression "after(5,sec)" **true**	-1
92	Decision	Transition "[Direction>Pos_input]" from Junction #30 to Junction #31	expression "Direction>Pos_input" **false**	-1
100	Decision	Transition "[pos == 4]" from Junction #20 to Junction #17	expression "pos == 4" **false**	-1

Chapter 4. Model Items

Table of Contents

This section presents, for each object in the model defining coverage objectives, the list of objectives and their individual status at the end of the analysis. It should match the coverage report obtained from running the generated test suite on the model, either from the harness model or by using the sldvruntest command.

Chart

#:	Type	Description	Status	Test Case
1	Decision	trigger edge occurred true	Satisfied	1 [0]

#:	Type	Description	Status	Test Case
2	Decision	trigger edge occurred false	Satisfied	1 [0]
3	Condition	SubSystem: trigger(1) edge occurred true	Satisfied	2 [0]
4	Condition	SubSystem: trigger(1) edge occurred false	Satisfied	1 [0]
5	Condition	SubSystem: trigger(2) edge occurred true	Satisfied	1 [0]
6	Condition	SubSystem: trigger(2) edge occurred false	Satisfied	1 [0]
7	Condition	SubSystem: trigger(3) edge occurred true	Satisfied	18 [0]
8	Condition	SubSystem: trigger(3) edge occurred false	Satisfied	1 [0]
9	Condition	SubSystem: trigger(4) edge occurred true	Satisfied	3 [0]
10	Condition	SubSystem: trigger(4) edge occurred false	Satisfied	1 [0]
11	Condition	SubSystem: trigger(5) edge occurred true	Satisfied	13 [0]
12	Condition	SubSystem: trigger(5) edge occurred false	Satisfied	1 [0]
13	Condition	SubSystem: trigger(6) edge occurred true	Satisfied	7 [0]
14	Condition	SubSystem: trigger(6) edge occurred false	Satisfied	1 [0]
15	Condition	SubSystem: trigger(7) edge occurred true	Satisfied	4 [0]
16	Condition	SubSystem: trigger(7) edge occurred false	Satisfied	1 [0]

Transition "[F1_evt&&Floor_1~=1]{Add(1)..." from "RequestWait" to "RequestWait"

#:	Type	Description	Status	Test Case
17	Decision	trigger expression true	Satisfied	4 [0]
18	Decision	trigger expression false	Satisfied	1 [0]
19	Condition	F1_evt true	Satisfied	4 [0]

#:	Type	Description	Status	Test Case
20	Condition	F1_evt false	Satisfied	1 [0]
21	Condition	Floor_1~=1 true	Satisfied	4 [0]
22	Condition	Floor_1~=1 false	Satisfied	14 [0]

Transition "[F2_evt&&Floor_2~=1]{Add(2)..." from "RequestWait" to "RequestWait"

#:	Type	Description	Status	Test Case
23	Decision	trigger expression true	Satisfied	4 [0]
24	Decision	trigger expression false	Satisfied	1 [0]
25	Condition	F2_evt true	Satisfied	4 [0]
26	Condition	F2_evt false	Satisfied	1 [0]
27	Condition	Floor_2~=1 true	Satisfied	4 [0]
28	Condition	Floor_2~=1 false	Satisfied	11 [0]

Transition "[F3_evt&&Floor_3~=1]{Add(3)..." from "RequestWait" to "RequestWait"

#:	Type	Description	Status	Test Case
29	Decision	trigger expression true	Satisfied	1 [0]
30	Decision	trigger expression false	Satisfied	4 [0]
31	Condition	F3_evt true	Satisfied	1 [0]
32	Condition	F3_evt false	Satisfied	4 [0]
33	Condition	Floor_3~=1 true	Satisfied	1 [0]

#:	Type	Description	Status	Test Case
34	Condition	Floor_3~=1 false	Satisfied	17 [0]

Transition "[F4_evt&&Floor_4~=1]{Add(4)..." from "RequestWait" to "RequestWait"

#:	Type	Description	Status	Test Case
35	Decision	trigger expression true	Satisfied	4 [0]
36	Decision	trigger expression false	Satisfied	4 [0]
37	Condition	F4_evt true	Satisfied	4 [0]
38	Condition	F4_evt false	Satisfied	4 [0]
39	Condition	Floor_4~=1 true	Satisfied	4 [0]
40	Condition	Floor_4~=1 false	Satisfied	12 [0]

State "LiftAlgorithm"

#:	Type	Description	Status	Test Case
41	Decision	Substate executed "DOOR_DONE"	Undecided	n/a
42	Decision	Substate executed "DOOR_WAIT"	Satisfied	6 [0]
43	Decision	Substate executed "MOTOR_ON"	Satisfied	4 [0]
44	Decision	Substate executed "REQUESTED_FLOOR_FOUND"	Satisfied	10 [0]
45	Decision	Substate executed "REQUEST_ACCEPTED"	Satisfied	4 [0]
46	Decision	Substate executed "WAIT"	Satisfied	1 [0]

Transition "[Direction~=0]" from "DOOR_DONE" to Junction #4

#:	Type	Description	Status	Test Case
47	Decision	expression "Direction~=0" true	Undecided	n/a
48	Decision	expression "Direction~=0" false	Undecided	n/a

Transition "[Direction==0]" from "DOOR_DONE" to Junction #6

#:	Type	Description	Status	Test Case
49	Decision	expression "Direction==0" true	Undecided	n/a
50	Decision	expression "Direction==0" false	Unsatisfiable	n/a

Transition "[after(5,sec)]" from "DOOR_WAIT" to "DOOR_DONE"

#:	Type	Description	Status	Test Case
51	Decision	expression "after(5,sec)" true	Undecided	n/a
52	Decision	expression "after(5,sec)" false	Satisfied	6 [0]

Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND"

#:	Type	Description	Status	Test Case
53	Decision	trigger expression true	Satisfied	8 [0]
54	Decision	trigger expression false	Satisfied	4 [0]

#:	Type	Description	Status	Test Case
55	Condition	1==ValidFloor(Pos_input) true	Satisfied	8 [0]
56	Condition	1==ValidFloor(Pos_input) false	Satisfied	4 [0]
57	Condition	1==any(Queue(:)==round(Pos_input)) true	Satisfied	8 [0]
58	Condition	1==any(Queue(:)==round(Pos_input)) false	Satisfied	9 [0]

Transition "[abs(Direction-Pos_input)<0..." from "REQUESTED_FLOOR_FOUND" to "DOOR_WAIT"

#:	Type	Description	Status	Test Case
59	Decision	expression "abs(Direction-Pos_input)<0.1" true	Satisfied	12 [0]
60	Decision	expression "abs(Direction-Pos_input)<0.1" false	Satisfied	10 [0]

Transition "[Direction~=Pos_input]" from "REQUEST_ACCEPTED" to "MOTOR_ON"

#:	Type	Description	Status	Test Case
61	Decision	expression "Direction~=Pos_input" true	Satisfied	4 [0]
62	Decision	expression "Direction~=Pos_input" false	Satisfied	6 [0]

Transition "[Direction==Pos_input]{Dire..." from "REQUEST_ACCEPTED" to "DOOR_WAIT"

#:	Type	Description	Status	Test Case
63	Decision	expression "Direction==Pos_input" true	Satisfied	6 [0]

#:	Type	Description	Status	Test Case
64	Decision	expression "Direction==Pos_input" false	Unsatisfiable	n/a

Transition "[PressCount>0]{Direction=Qu..." from "WAIT" to "REQUEST_ACCEPTED"

#:	Type	Description	Status	Test Case
65	Decision	expression "PressCount>0" true	Satisfied	1 [0]
66	Decision	expression "PressCount>0" false	Satisfied	4 [0]

State "ElevatorUnitControl"

#:	Type	Description	Status	Test Case
67	Decision	Substate executed "GO_DOWN"	Satisfied	4 [0]
68	Decision	Substate executed "GO_UP"	Satisfied	18 [0]
69	Decision	Substate executed "HALT"	Satisfied	7 [0]
70	Decision	Substate executed "OFF"	Satisfied	1 [0]

Transition "[Emergency]" from "GO_DOWN" to Junction #32

#:	Type	Description	Status	Test Case
71	Decision	expression "Emergency" true	Satisfied	7 [0]
72	Decision	expression "Emergency" false	Satisfied	4 [0]

Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF"

#:	Type	Description	Status	Test Case
73	Decision	expression "~in(LiftAlgorithm.MOTOR_ON)" true	Satisfied	13 [0]
74	Decision	expression "~in(LiftAlgorithm.MOTOR_ON)" false	Satisfied	4 [0]
75	Condition	in(LiftAlgorithm.MOTOR_ON) true	Satisfied	4 [0]
76	Condition	in(LiftAlgorithm.MOTOR_ON) false	Satisfied	13 [0]

Transition "[Emergency]" from "GO_UP" to Junction #33

#:	Type	Description	Status	Test Case
77	Decision	expression "Emergency" true	Satisfied	19 [0]
78	Decision	expression "Emergency" false	Satisfied	18 [0]

Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"

#:	Type	Description	Status	Test Case
79	Decision	expression "~in(LiftAlgorithm.MOTOR_ON)" true	Satisfied	20 [0]
80	Decision	expression "~in(LiftAlgorithm.MOTOR_ON)" false	Satisfied	18 [0]
81	Condition	in(LiftAlgorithm.MOTOR_ON) true	Satisfied	18 [0]
82	Condition	in(LiftAlgorithm.MOTOR_ON) false	Satisfied	20 [0]

Transition "[Start]" from "HALT" to "OFF"

#:	Type	Description	Status	Test Case
83	Decision	expression "Start" true	Satisfied	9 [0]
84	Decision	expression "Start" false	Satisfied	7 [0]

Transition "[in(LiftAlgorithm.MOTOR_ON)]" from "OFF" to Junction #30

#:	Type	Description	Status	Test Case
85	Decision	expression "in(LiftAlgorithm.MOTOR_ON)" true	Satisfied	4 [0]
86	Decision	expression "in(LiftAlgorithm.MOTOR_ON)" false	Satisfied	1 [0]

Transition "[Direction<Pos_input]" from Junction #30 to "GO_DOWN"

#:	Type	Description	Status	Test Case
87	Decision	expression "Direction<Pos_input" true	Satisfied	4 [0]
88	Decision	expression "Direction<Pos_input" false	Satisfied	5 [0]

Transition "[Emergency]" from "OFF" to "HALT"

#:	Type	Description	Status	Test Case
89	Decision	expression "Emergency" true	Satisfied	16 [0]
90	Decision	expression "Emergency" false	Satisfied	1 [0]

Transition "[Direction>Pos_input]" from Junction #30 to Junction #31

#:	Type	Description	Status	Test Case
91	Decision	expression "Direction>Pos_input" true	Satisfied	5 [0]
92	Decision	expression "Direction>Pos_input" false	Undecided	n/a

Transition "[pos == 1]" from Junction #19 to Junction #14

#:	Type	Description	Status	Test Case
93	Decision	expression "pos == 1" true	Satisfied	15 [0]
94	Decision	expression "pos == 1" false	Satisfied	6 [0]

Transition "[pos == 2]" from Junction #26 to Junction #11

#:	Type	Description	Status	Test Case
95	Decision	expression "pos == 2" true	Satisfied	6 [0]
96	Decision	expression "pos == 2" false	Satisfied	10 [0]

Transition "[pos == 3]" from Junction #21 to Junction #28

#:	Type	Description	Status	Test Case
97	Decision	expression "pos == 3" true	Satisfied	10 [0]
98	Decision	expression "pos == 3" false	Satisfied	11 [0]

Transition "[pos == 4]" from Junction #20 to Junction #17

#:	Type	Description	Status	Test Case
99	Decision	expression "pos == 4" true	Satisfied	11 [0]
100	Decision	expression "pos == 4" false	Undecided	n/a

Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10

#:	Type	Description	Status	Test Case
101	Decision	trigger expression true	Satisfied	8 [0]
102	Decision	trigger expression false	Satisfied	4 [0]
103	Condition	abs(indx-1.0)<0.1 true	Satisfied	14 [0]
104	Condition	abs(indx-1.0)<0.1 false	Satisfied	4 [0]
105	Condition	abs(indx-2.0)<0.1 true	Satisfied	10 [0]
106	Condition	abs(indx-2.0)<0.1 false	Satisfied	4 [0]
107	Condition	abs(indx-3.0)<0.1 true	Satisfied	9 [0]
108	Condition	abs(indx-3.0)<0.1 false	Satisfied	4 [0]
109	Condition	abs(indx-4.0)<0.1 true	Satisfied	8 [0]
110	Condition	abs(indx-4.0)<0.1 false	Satisfied	4 [0]

Chapter 5. Test Cases

Table of Contents

This section contains detailed information about each generated test case.

Test Case 1

Summary.

Length:	0.4 second (3 sample periods)
Objectives Satisfied:	22

Objectives.

Step	Time	Model Item	Objectives
1	0	Chart Chart Chart Chart Chart Chart Chart Chart	2. trigger edge occurred false [0] 4. SubSystem: trigger(1) edge occurred false [0] 6. SubSystem: trigger(2) edge occurred false [0] 8. SubSystem: trigger(3) edge occurred false [0] 10. SubSystem: trigger(4) edge occurred false [0]

Step	Time	Model Item	Objectives
			12. SubSystem: trigger(5) edge occurred false [0] 14. SubSystem: trigger(6) edge occurred false [0] 16. SubSystem: trigger(7) edge occurred false [0]
3	0.4	Chart Chart Transition "[F1_evt&&Floor_1~=1]{Add(1)..." from "RequestWait" to "RequestWait" Transition "[F1_evt&&Floor_1~=1]{Add(1)..." from "RequestWait" to "RequestWait" Transition "[F2_evt&&Floor_2~=1]{Add(2)..." from "RequestWait" to "RequestWait" Transition "[F2_evt&&Floor_2~=1]{Add(2)..." from "RequestWait" to "RequestWait" Transition "[F3_evt&&Floor_3~=1]{Add(3)..." from "RequestWait" to "RequestWait" Transition "[F3_evt&&Floor_3~=1]{Add(3)..." from "RequestWait" to "RequestWait" Transition "[F3_evt&&Floor_3~=1]{Add(3)..." from "RequestWait" to "RequestWait" State "LiftAlgorithm" Transition "[PressCount>0]{Direction=Qu..." from "WAIT" to "REQUEST_ACCEPTED" State "ElevatorUnitControl" Transition "[in(LiftAlgorithm.MOTOR_ON)]" from "OFF" to Junction #30 Transition "[Emergency]" from "OFF" to "HALT"	1. trigger edge occurred true [0] 5. SubSystem: trigger(2) edge occurred true [0] 18. trigger expression false [0] 20. F1_evt false [0] 24. trigger expression false [0] 26. F2_evt false [0] 29. trigger expression true [0] 31. F3_evt true [0] 33. Floor_3~=1 true [0] 46. Substate executed "WAIT" [0] 65. expression "PressCount>0" true [0] 70. Substate executed "OFF" [0] 86. expression "in(LiftAlgorithm.MOTOR_ON)" false [0] 90. expression "Emergency" false [0]

Generated Input Data.

Time	**0-0.2**	**0.4**
Step	**1-2**	**3**
Pos_input	3.5648	1.5154
input events	[1.9184 -5.4067 9.8142 -3.321 5.9365 -6.4012 2.414]	[2.6094 1.6229 -4.7853 1.162 -6.7752 -5.4024 -4.0808]

Test Case 2

Summary.

Length:	0.2 second (2 sample periods)
Objectives Satisfied:	1

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Chart	3. SubSystem: trigger(1) edge occurred true [0]

Generated Input Data.

Time	**0**	**0.2**
Step	**1**	**2**
Pos_input	1	1
input events	[0 -1 0 0 0 0 -1]	[1 -1 -1 -1 -1 -1 -1]

Test Case 3

Summary.

Length:	0.2 second (2 sample periods)
Objectives Satisfied:	1

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Chart	9. SubSystem: trigger(4) edge occurred true [0]

Generated Input Data.

Time	**0**	**0.2**
Step	**1**	**2**
Pos_input	1	1
input events	[1 1 1 0 -1 -1 -1]	[0 -1 -1 1 -1 -1 -1]

Test Case 4

Summary.

Length: 0.8 second (5 sample periods)
Objectives Satisfied: 31

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Chart	15. SubSystem: trigger(7) edge occurred true [0]
3	0.4	Transition "[F2_evt&&Floor_2~=1]{Add(2)..." from "RequestWait" to "RequestWait" Transition "[F2_evt&&Floor_2~=1]{Add(2)..." from "RequestWait" to "RequestWait" Transition "[F2_evt&&Floor_2~=1]{Add(2)..." from "RequestWait" to "RequestWait" Transition "[F3_evt&&Floor_3~=1]{Add(3)..." from "RequestWait" to "RequestWait" Transition "[F3_evt&&Floor_3~=1]{Add(3)..." from "RequestWait" to "RequestWait" Transition "[F4_evt&&Floor_4~=1]{Add(4)..." from "RequestWait" to "RequestWait" Transition "[F4_evt&&Floor_4~=1]{Add(4)..." from "RequestWait" to "RequestWait" Transition "[F4_evt&&Floor_4~=1]{Add(4)..." from "RequestWait" to "RequestWait" Transition "[F4_evt&&Floor_4~=1]{Add(4)..." from "RequestWait" to "RequestWait" Transition "[F4_evt&&Floor_4~=1]{Add(4)..." from "RequestWait" to "RequestWait" State "LiftAlgorithm" Transition "[Direction~=Pos_input]" from "REQUEST_ACCEPTED" to "MOTOR_ON" Transition "[PressCount>0]{Direction=Qu..." from "WAIT" to "REQUEST_ACCEPTED" Transition "[in(LiftAlgorithm.MOTOR_ON)]" from "OFF" to Junction #30 Transition "[Direction<Pos_input]" from Junction #30 to "GO_DOWN"	23. trigger expression true [0] 25. F2_evt true [0] 27. Floor_2~=1 true [0] 30. trigger expression false [0] 32. F3_evt false [0] 35. trigger expression true [0] 36. trigger expression false [0] 37. F4_evt true [0] 38. F4_evt false [0] 39. Floor_4~=1 true [0] 45. Substate executed "REQUEST_ACCEPTED" [0] 61. expression "Direction~=Pos_input" true [0] 66. expression "PressCount>0" false [0] 85. expression "in(LiftAlgorithm.MOTOR_ON)" true [0] 87. expression "Direction<Pos_input" true [0]

Step	Time	Model Item	Objectives
5	0.8	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait" Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait" Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait" State "LiftAlgorithm" Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND" Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND" State "ElevatorUnitControl" Transition "[Emergency]" from "GO_DOWN" to Junction #32 Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF" Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF" Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10 Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10 Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10 Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10 Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10	17. trigger expression true [0] 19. F1_evt true [0] 21. Floor_1~=1 true [0] 43. Substate executed "MOTOR_ON" [0] 54. trigger expression false [0] 56. 1==ValidFloor(Pos_input) false [0] 67. Substate executed "GO_DOWN" [0] 72. expression "Emergency" false [0] 74. expression "~in(LiftAlgorithm.MOTOR_ON)" false [0] 75. in(LiftAlgorithm.MOTOR_ON) true [0] 102. trigger expression false [0] 104. abs(indx-1.0)<0.1 false [0] 106. abs(indx-2.0)<0.1 false [0] 108. abs(indx-3.0)<0.1 false [0] 110. abs(indx-4.0)<0.1 false [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4-0.6**	**0.8**
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	3.5648	1.5154
input events	[1 1 1 1 1 1 -1]	[-1 -1 -1 -1 -1 -1 0]	[1.9184 -5.4067 9.8142 -3.321 5.9365 -6.4012 2.414]	[2.6094 1.6229 -4.7853 1.162 -6.7752 -5.4024 -4.0808]

Test Case 5

Summary.

Length:	0.4 second (3 sample periods)
Objectives Satisfied:	2

Objectives.

Step	Time	Model Item	Objectives
3	0.4	Transition "[Direction<Pos_input]" from Junction #30 to "GO_DOWN" Transition "[Direction>Pos_input]" from Junction #30 to Junction #31	88. expression "Direction<Pos_input" false [0] 91. expression "Direction>Pos_input" true [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4**
Step	**1**	**2**	**3**
Pos_input	1	1	1
input events	[1 1 1 1 1 1 -1]	[-1 -1 -1 -1 -1 -1 0]	[1 -1 1 -1 1 -1 1]

Test Case 6

Summary.

Length:	0.8 second (5 sample periods)
Objectives Satisfied:	6

Objectives.

Step	Time	Model Item	Objectives
3	0.4	Transition "[Direction~=Pos_input]" from "REQUEST_ACCEPTED" to "MOTOR_ON" Transition "[Direction==Pos_input]{Dire..." from "REQUEST_ACCEPTED" to "DOOR_WAIT" Transition "[pos == 1]" from Junction #19 to Junction #14 Transition "[pos == 2]" from Junction #26 to Junction #11	62. expression "Direction~=Pos_input" false [0] 63. expression "Direction==Pos_input" true [0] 94. expression "pos == 1" false [0] 95. expression "pos == 2" true [0]
5	0.8	State "LiftAlgorithm"	42. Substate executed "DOOR_WAIT" [0] 52. expression "after(5,sec)" false [0]

Step	Time	Model Item	Objectives
		Transition "[after(5,sec)]" from "DOOR_WAIT" to "DOOR_DONE"	

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	2	1.3485
input events	[1 1 1 1 1 1 -1]	[-1 -1 -1 -1 -1 -1 0]	[1 -1 1 -1 1 -1 1]	[7.0316 -9.4252 -2.8942 6.3506 7.7598 6.546 -9.3335]

Test Case 7

Summary.

Length:	0.8 second (5 sample periods)
Objectives Satisfied:	4

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Chart	13. SubSystem: trigger(6) edge occurred true [0]
3	0.4	Transition "[Emergency]" from "GO_DOWN" to Junction #32	71. expression "Emergency" true [0]
5	0.8	State "ElevatorUnitControl" Transition "[Start]" from "HALT" to "OFF"	69. Substate executed "HALT" [0] 84. expression "Start" false [0]

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	3.5648	1.5154
input events	[1 1 1 1 1 0 1]	[-1 -1 -1 -1 -1 1 0]	[1.9184 -5.4067 9.8142 -3.321 5.9365 -6.4012 2.414]	[2.6094 1.6229 -4.7853 1.162 -6.7752 -5.4024 -4.0808]

Test Case 8

Summary.

Length:	0.4 second (3 sample periods)
Objectives Satisfied:	5

Objectives.

Step	Time	Model Item	Objectives
3	0.4	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND" Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND" Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND" Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10 Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10	53. trigger expression true [0] 55. 1==ValidFloor(Pos_input) true [0] 57. 1==any(Queue(:)==round(Pos_input)) true [0] 101. trigger expression true [0] 109. abs(indx-4.0)<0.1 true [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4**
Step	**1**	**2**	**3**
Pos_input	1	1	3.95
input events	[1 1 1 1 1 0 1]	[-1 -1 -1 -1 -1 1 0]	[1 -1 1 -1 1 -1 1]

Test Case 9

Summary.

Length:	0.8 second (5 sample periods)
Objectives Satisfied:	3

Objectives.

Step	Time	Model Item	Objectives
3	0.4	Transition "[1==ValidFloor(Pos_input)&&..." from "MOTOR_ON" to "REQUESTED_FLOOR_FOUND" Transition "[abs(indx-1.0)<0.1 | | abs(ind..." from Junction #8 to Junction #10	58. 1==any(Queue(:)==round(Pos_input)) false [0] 107. abs(indx-3.0)<0.1 true [0]
5	0.8	Transition "[Start]" from "HALT" to "OFF"	83. expression "Start" true [0]

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	3	1.3485
input events	[1 1 1 1 1 0 1]	[-1 -1 -1 -1 -1 1 0]	[1 -1 1 -1 1 -1 1]	[7.0316 -9.4252 -2.8942 6.3506 7.7598 6.546 -9.3335]

Test Case 10

Summary.

Length:	0.8 second (5 sample periods)
Objectives Satisfied:	5

Objectives.

Step	Time	Model Item	Objectives
3	0.4	Transition "[abs(indx-1.0)<0.1 | | abs(ind..." from Junction #8 to Junction #10	105. abs(indx-2.0)<0.1 true [0]
5	0.8	State "LiftAlgorithm" Transition "[abs(Direction-Pos_input)<0..." from "REQUESTED_FLOOR_FOUND" to "DOOR_WAIT" Transition "[pos == 2]" from Junction #26 to Junction #11 Transition "[pos == 3]" from Junction #21 to Junction #28	44. Substate executed "REQUESTED_FLOOR_FOUND" [0] 60. expression "abs(Direction-Pos_input)<0.1" false [0] 96. expression "pos == 2" false [0] 97. expression "pos == 3" true [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4-0.6**	**0.8**
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	2.05	2.8355
input events	[1 1 1 1 1 0 1]	[-1 -1 -1 -1 -1 1 0]	[1 -1 1 -1 1 -1 1]	[9.1863 -3.7454 -8.8499 3.7371 -5.2662 -4.2185 -7.5324]

Test Case 11

Summary.

Length:	1.2 seconds (7 sample periods)
Objectives Satisfied:	3

Objectives.

Step	**Time**	**Model Item**	**Objectives**
5	0.8	Transition "[pos == 3]" from Junction #21 to Junction #28 Transition "[pos == 4]" from Junction #20 to Junction #17	98. expression "pos == 3" false [0] 99. expression "pos == 4" true [0]
7	1.2	Transition "[F2_evt&&Floor_2~=1] {Add(2)..." from "RequestWait" to "RequestWait"	28. Floor_2~=1 false [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4-0.6**	**0.8-1**	**1.2**
Step	**1**	**2**	**3-4**	**5-6**	7
Pos_input	1	1	2.05	3.5	1.2294
input events	[1 1 1 1 1 0 1]	[-1 -1 -1 -1 -1 1 0]	[1 -1 1 -1 1 -1 1]	[1 -1 -1 1 -1 -1 -1]	[6.614 -0.33404 2.967 -4.1488 -1.8915 -6.792 7.1612]

Test Case 12

Summary.

Length:	1.2 seconds (7 sample periods)
Objectives Satisfied:	2

Objectives.

Step	Time	Model Item	Objectives
5	0.8	Transition "[abs(Direction-Pos_input)<0..." from "REQUESTED_FLOOR_FOUND" to "DOOR_WAIT"	59. expression "abs(Direction-Pos_input)<0.1" true [0]
7	1.2	Transition "[F4_evt&&Floor_4~=1] {Add(4)..." from "RequestWait" to "RequestWait"	40. Floor_4~=1 false [0]

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8-1	1.2
Step	**1**	**2**	**3-4**	**5-6**	**7**
Pos_input	1	1	2.05	2.05	3.7719
input events	[1 1 1 1 1 0 1]	[-1 -1 -1 -1 -1 1 0]	[1 -1 1 -1 1 -1 1]	[1 -1 -1 1 -1 -1 -1]	[4.7554 -5.4894 2.7378 4.0146 8.7463 -1.9468 1.5922]

Test Case 13

Summary.

Length:	0.8 second (5 sample periods)
Objectives Satisfied:	3

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Chart	11. SubSystem: trigger(5) edge occurred true [0]
5	0.8	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF" Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_DOWN" to "OFF"	73. expression "~in(LiftAlgorithm.MOTOR_ON)" true [0] 76. in(LiftAlgorithm.MOTOR_ON) false [0]

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	2.5019	2.0349
input events	[1 1 1 1 0 -1 -1]	[0 -1 -1 -1 1 -1 -1]	[-5.7287 4.4479 -2.1928 0.77476	[-2.5158 -9.2854 9.3544 -1.5533

Time	**0**	**0.2**	**0.4-0.6**	**0.8**
Step	**1**	**2**	**3-4**	**5**
			-1.1315 -7.3162 -9.3507]	-1.814 -8.802 -9.5158]

Test Case 14

Summary.

Length:	1.2 seconds (7 sample periods)
Objectives Satisfied:	2

Objectives.

Step	**Time**	**Model Item**	**Objectives**
5	0.8	Transition "[abs(indx-1.0)<0.1||abs(ind..." from Junction #8 to Junction #10	103. abs(indx-1.0)<0.1 true [0]
7	1.2	Transition "[F1_evt&&Floor_1~=1] {Add(1)..." from "RequestWait" to "RequestWait"	22. Floor_1~=1 false [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4-0.6**	**0.8-1**	**1.2**
Step	**1**	**2**	**3-4**	**5-6**	**7**
Pos_input	1	1	2.5019	1	2.6044
input events	[1 1 1 1 0 -1 -1]	[0 -1 -1 -1 1 -1 -1]	[-5.7287 4.4479 -2.1928 0.77476 -1.1315 -7.3162 -9.3507]	[-1 -1 1 -1 -1 -1 -1]	[3.2427 2.4605 2.786 -0.21814 -3.0676 -5.0211 -3.0358]

Test Case 15

Summary.

Length:	1.2 seconds (7 sample periods)
Objectives Satisfied:	1

Objectives.

Step	Time	Model Item	Objectives
7	1.2	Transition "[pos == 1]" from Junction #19 to Junction #14	93. expression "pos == 1" true [0]

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8-1	1.2
Step	**1**	**2**	**3-4**	**5-6**	7
Pos_input	1	1	2.5019	1	1.1
input events	[1 1 1 1 0 -1 -1]	[0 -1 -1 -1 1 -1 -1]	[-5.7287 4.4479 -2.1928 0.77476 -1.1315 -7.3162 -9.3507]	[-1 -1 1 -1 -1 -1 -1]	[1 1 1 -1 -1 -1 -1]

Test Case 16

Summary.

Length:	1.4 seconds (8 sample periods)
Objectives Satisfied:	1

Objectives.

Step	Time	Model Item	Objectives
8	1.4	Transition "[Emergency]" from "OFF" to "HALT"	89. expression "Emergency" true [0]

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8-1.2	1.4
Step	**1**	**2**	**3-4**	**5-7**	**8**
Pos_input	1	1	2.5019	1	2.9741
input events	[1 1 1 1 0 -1 -1]	[0 -1 -1 -1 1 -1 -1]	[-5.7287 4.4479 -2.1928 0.77476 -1.1315 -7.3162 -9.3507]	[-1 -1 1 -1 -1 -1 -1]	[7.6185 8.8469 -0.85255 -8.8897 -1.6046 -9.7155 3.7277]

Test Case 17

Summary.

Length:	1.4 seconds (8 sample periods)
Objectives Satisfied:	1

Objectives.

Step	Time	Model Item	Objectives
8	1.4	Transition "[F3_evt&&Floor_3~=1] {Add(3)..." from "RequestWait" to "RequestWait"	34. Floor_3~=1 false [0]

Generated Input Data.

Time	**0**	**0.2**	**0.4-0.6**	**0.8-1.2**	**1.4**
Step	**1**	**2**	**3-4**	**5-7**	**8**
Pos_input	1	1	2.5019	1	1.4046
input events	[1 1 1 1 0 -1 -1]	[0 -1 -1 -1 1 -1 -1]	[-5.7287 4.4479 -2.1928 0.77476 -1.1315 -7.3162 -9.3507]	[-1 -1 1 -1 -1 -1 -1]	[7.7193 -8.1239 -9.8275 2.56 4.6685 8.909 -9.2178]

Test Case 18

Summary.

Length:	0.8 second (5 sample periods)
Objectives Satisfied:	5

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Chart	7. SubSystem: trigger(3) edge occurred true [0]
5	0.8	State "ElevatorUnitControl" Transition "[Emergency]" from "GO_UP" to Junction #33 Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	68. Substate executed "GO_UP" [0] 78. expression "Emergency" false [0] 80. expression "~in(LiftAlgorithm.MOTOR_ON)" false [0] 81. in(LiftAlgorithm.MOTOR_ON) true [0]

Step	Time	Model Item	Objectives
		Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	

Generated Input Data.

Time	0	0.2	0.4-0.6	0.8
Step	**1**	**2**	**3-4**	**5**
Pos_input	1	1	3.5648	1.5154
input events	[1 1 0 -1 -1 -1 -1]	[0 -1 1 -1 -1 -1 -1]	[1.9184 -5.4067 9.8142 -3.321 5.9365 -6.4012 2.414]	[2.6094 1.6229 -4.7853 1.162 -6.7752 -5.4024 -4.0808]

Test Case 19

Summary.

Length:	0.2 second (2 sample periods)
Objectives Satisfied:	1

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Transition "[Emergency]" from "GO_UP" to Junction #33	77. expression "Emergency" true [0]

Generated Input Data.

Time	0	0.2
Step	**1**	**2**
Pos_input	2.95	2.5
input events	[-1 -1 -1 -1 -1 -1 -1]	[-1 -1 -1 0 0 0 0]

Test Case 20

Summary.

Length:	0.2 second (2 sample periods)
Objectives Satisfied:	2

Objectives.

Step	Time	Model Item	Objectives
2	0.2	Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF" Transition "[~in(LiftAlgorithm.MOTOR_ON)]" from "GO_UP" to "OFF"	79. expression "~in(LiftAlgorithm.MOTOR_ON)" true [0] 82. in(LiftAlgorithm.MOTOR_ON) false [0]

Generated Input Data.

Time	**0**	**0.2**
Step	**1**	**2**
Pos_input	3.5	2.95
input events	[0 0 -1 -1 -1 -1 -1]	[-0.05 0 0 0 0 0 0]