

PROJECT

Avinash Reddy Madireddy – 926067606

Tanvitha Koganti-928591074

Honor Pledge

On the cover page of your project report, please type/write down the following sentence in the underlined section below and sign/type your name under it.

"On my honor, I have neither given nor received unauthorized aid on this project."

Do NOT copy and paste the sentence, please do type/write every word in this sentence. Failure to write down this sentence and sign your name or failure to honor the content of this sentence will result in 0 points in the project.

Write the above sentence in the underlined section below:

"On my honor, I have neither given nor received unauthorized aid on this project."

Type or Sign Your Name here:

Avinash Reddy Madireddy

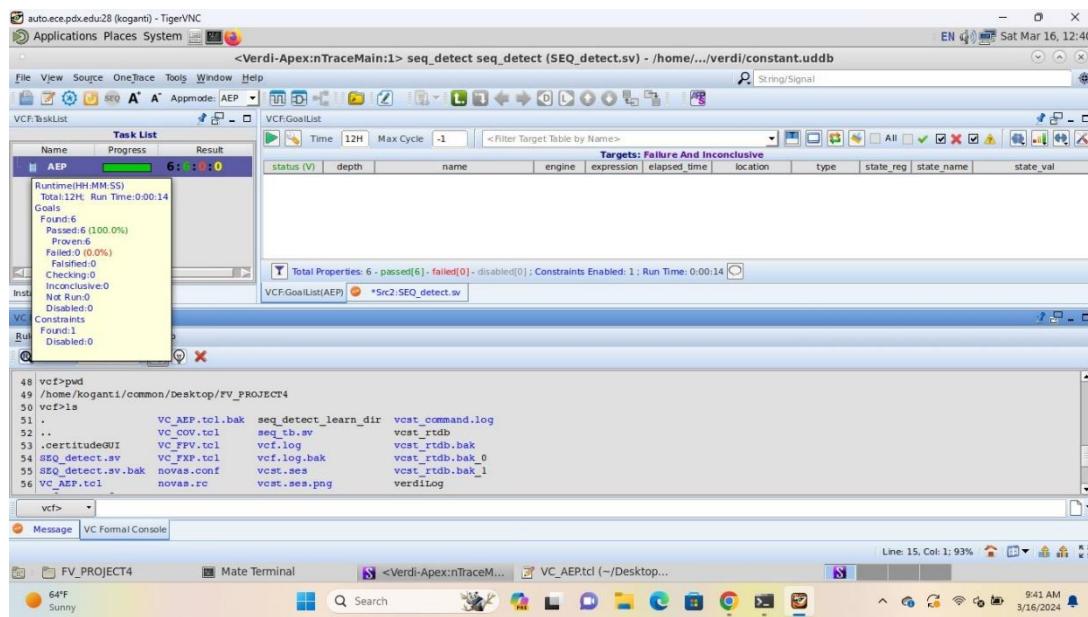
Tanvitha koganti

PSU ID:

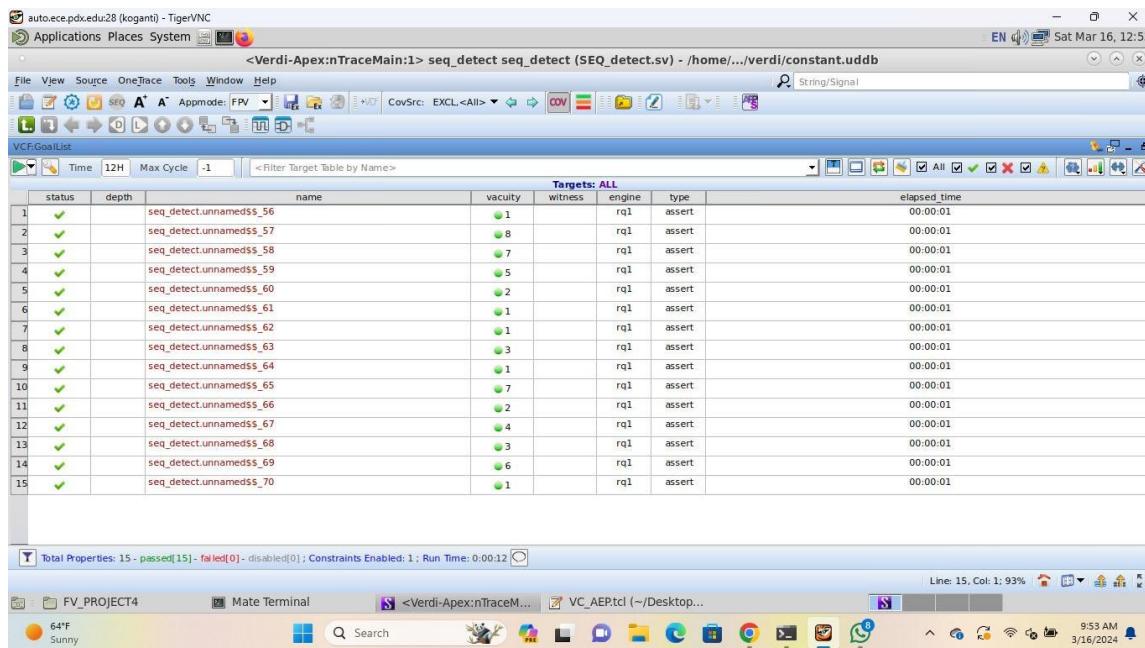
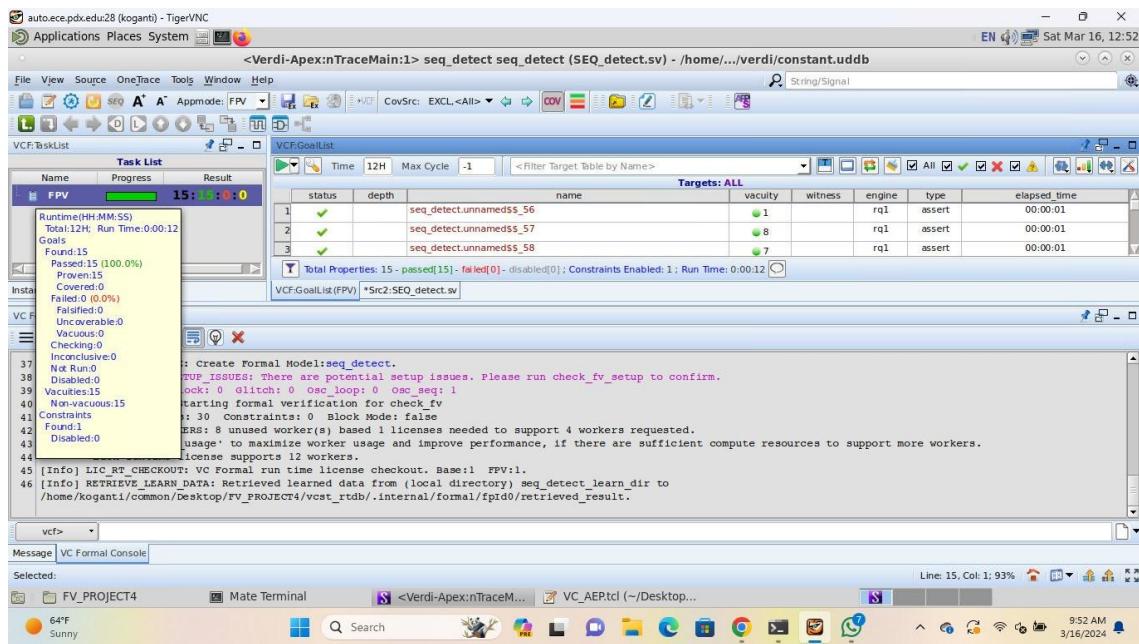




VC FORMAL AEP



VC FORMAL FPV



VC FORMAL COV

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF:TaskList

Task List

Name	Progress	Result
COV	448: 347: 10	

Runtime(HH:MM:SS)
Total:12H: Run Time:0:00:16
Goals:
Found:448
Passed:347 (77.5%)
Proven:0
Covered:347
Failed:101 (22.5%)
Falsified:0
Uncoverable:101
Checking:0
Inconclusive:0
Not Run:0
Disabled:0
Waived:0
Constraints:
Found:1
Disabled:0

Summary

VCF:GoalList(COV) *Src2:SEQ_detect.sv

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

CovDetail

CovDetail is created.

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEPtcl (~/Desktop...)

64°F Sunny 9:43 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF:GoalList

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
1	0	seq_detect fsm0_state_0	...Q_detectsv22	fsm_state	e1						C	S0	0000		
2	0	seq_detect fsm0_state_1	...detectsv124	fsm_state	e1						C	S0_C	0001		
3	0	seq_detect fsm0_state_2	...detectsv131	fsm_state	e1						C	S1	0010		
4	0	seq_detect fsm0_state_3	...detectsv138	fsm_state	e1						C	S1_C	0011		
5	0	seq_detect fsm0_state_4	...detectsv145	fsm_state	e1						C	S2	0100		
6	0	seq_detect fsm0_state_5	...detectsv152	fsm_state	e1						C	S2_C	0101		
7	0	seq_detect fsm0_state_6	...detectsv159	fsm_state	e1						C	S3	0110		
8	0	seq_detect fsm0_state_7	...detectsv166	fsm_state	e1						C	S3_C	0111		
9	0	seq_detect fsm0_state_8	...detectsv173	fsm_state	e1						C	isolation1	1000		
10	0	seq_detect fsm0_trans_0	...detectsv124	...transition	e1						C			S0	S0_C
11	0	seq_detect fsm0_trans_1	...Q_detectsv22	...transition	e1						C			S0_C	S0
12	0	seq_detect fsm0_trans_10	...detectsv159	...transition	e1						C			S2_C	S3
13	0	seq_detect fsm0_trans_11	...Q_detectsv22	...transition	e1						C			S3	S0
14	0	seq_detect fsm0_trans_12	...detectsv166	...transition	e1						C			S3	S3_C
15	0	seq_detect fsm0_trans_13	...Q_detectsv22	...transition	e1						C			S3_C	S0
16	0	seq_detect fsm0_trans_14	...detectsv173	...transition	e1						C			S3_C	isolation1
17	0	seq_detect fsm0_trans_15	...Q_detectsv22	...transition	e1						C			isolation1	S0

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEPtcl (~/Desktop...)

Today's high To break record 9:45 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL.<All> COV

VCF-GoalList

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
18	0	seq_detect fsm0_trans_2	..._detectsv131	...transition	e1						C	S0_C	S1		
19	0	seq_detect fsm0_trans_3	...Q_detectsv22	...transition	e1						C		S1	S0	
20	0	seq_detect fsm0_trans_4	..._detectsv138	...transition	e1						C		S1	S1_C	
21	0	seq_detect fsm0_trans_5	...Q_detectsv22	...transition	e1						C		S1_C	S0	
22	0	seq_detect fsm0_trans_6	..._detectsv145	...transition	e1						C		S1_C	S2	
23	0	seq_detect fsm0_trans_7	...Q_detectsv22	...transition	e1						C		S2	S0	
24	0	seq_detect fsm0_trans_8	..._detectsv152	...transition	e1						C		S2	S2_C	
25	0	seq_detect fsm0_trans_9	...Q_detectsv22	...transition	e1						C		S2_C	S0	
26	0	seq_detect fsm1_state_0	...Q_detectsv23	fsm_state	e1						CS	CS0	0000		
27	0	seq_detect fsm1_state_1	...Q_detectsv39	fsm_state	e1						CS	CS0_C	0001		
28	0	seq_detect fsm1_state_10	..._detectsv102	fsm_state	e1						CS	deadlock1	1100		
29	0	seq_detect fsm1_state_2	...Q_detectsv46	fsm_state	e1						CS	CS1	0010		
30	0	seq_detect fsm1_state_3	...Q_detectsv53	fsm_state	e1						CS	CS1_C	0011		
31	0	seq_detect fsm1_state_4	...Q_detectsv60	fsm_state	e1						CS	CS2	0100		
32	0	seq_detect fsm1_state_5	...Q_detectsv67	fsm_state	e1						CS	CS2_C	0101		
33	0	seq_detect fsm1_state_6	...Q_detectsv74	fsm_state	e1						CS	CS3	0110		
34	0	seq_detect fsm1_state_7	...Q_detectsv81	fsm_state	e1						CS	CS3_C	0111		

Cov mode: UA; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0]; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEPtcl (~/Desktop... Line: 15, Col: 1; 93%

I-405 N / US-30 E Accident 9:45 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL.<All> COV

VCF-GoalList

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
35	0	seq_detect fsm1_state_8	...Q_detectsv88	fsm_state	e1						CS	CS4	1000		
36	0	seq_detect fsm1_state_9	...Q_detectsv95	fsm_state	e1						CS	CS4_C	1001		
37	0	seq_detect fsm1_trans_0	...Q_detectsv39	...transition	e1						CS			CS0	CS0_C
38	0	seq_detect fsm1_trans_1	...Q_detectsv23	...transition	e1						CS			CS0_C	CS0
39	0	seq_detect fsm1_trans_10	...Q_detectsv74	...transition	e1						CS			CS2_C	CS3
40	0	seq_detect fsm1_trans_11	...Q_detectsv23	...transition	e1						CS			CS3	CS0
41	0	seq_detect fsm1_trans_12	...Q_detectsv81	...transition	e1						CS			CS3	CS3_C
42	0	seq_detect fsm1_trans_13	...Q_detectsv23	...transition	e1						CS			CS3_C	CS0
43	0	seq_detect fsm1_trans_14	...Q_detectsv88	...transition	e1						CS			CS3_C	CS4
44	0	seq_detect fsm1_trans_15	...Q_detectsv23	...transition	e1						CS			CS4	CS0
45	0	seq_detect fsm1_trans_16	...Q_detectsv95	...transition	e1						CS			CS4	CS4_C
46	0	seq_detect fsm1_trans_17	...Q_detectsv23	...transition	e1						CS			CS4_C	CS0
47	0	seq_detect fsm1_trans_18	..._detectsv102	...transition	e1						CS			CS4_C	deadlock1
48	0	seq_detect fsm1_trans_19	...Q_detectsv23	...transition	e1						CS			deadlock1	CS0
49	0	seq_detect fsm1_trans_2	...Q_detectsv46	...transition	e1						CS			CS0_C	CS1
50	0	seq_detect fsm1_trans_3	...Q_detectsv23	...transition	e1						CS			CS1	CS0
51	0	seq_detect fsm1_trans_4	...Q_detectsv53	...transition	e1						CS			CS1	CS1_C

Cov mode: UA; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0]; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEPtcl (~/Desktop... Line: 15, Col: 1; 93%

I-405 N / US-30 E Accident 9:46 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL,<All> Cov: String/Signal

VCF-GoalList

Time 12H Max Cycle -1 <Filter Target Table by Name>

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
52	0	seq_detect fsm1_trans_5	...Q_detectsv23	...transition	e1						CS	CS1_C	CS0		
53	0	seq_detect fsm1_trans_6	...Q_detectsv60	...transition	e1						CS	CS1_C	CS2		
54	0	seq_detect fsm1_trans_7	...Q_detectsv23	...transition	e1						CS	CS2	CS0		
55	0	seq_detect fsm1_trans_8	...Q_detectsv67	...transition	e1						CS	CS2	CS2_C		
56	0	seq_detect fsm1_trans_9	...Q_detectsv23	...transition	e1						CS	CS2_C	CS0		
57	0	seq_detect fsm2_state_0	...Q_detectsv18	fsm_state	e1						cs	deadlock	011001		
58	1	seq_detect fsm2_state_1	..._detectsv202	fsm_state	e1						cs	isolation	011010		
59	3	seq_detect fsm2_state_10	..._detectsv240	fsm_state	e1						cs	s2_c	000101		
60	1	seq_detect fsm2_state_11	..._detectsv247	fsm_state	e1						cs	s3	000110		
61	2	seq_detect fsm2_state_12	..._detectsv258	fsm_state	e1						cs	s3_c	000111		
62	0	seq_detect fsm2_state_13	..._detectsv265	fsm_state	e1						cs	s4	001000		
63	0	seq_detect fsm2_state_14	..._detectsv276	fsm_state	e1						cs	s4_c	001001		
64	1	seq_detect fsm2_state_15	..._detectsv283	fsm_state	e1						cs	s5	001010		
65	2	seq_detect fsm2_state_16	..._detectsv294	fsm_state	e1						cs	s5_c	001011		
66	3	seq_detect fsm2_state_17	..._detectsv301	fsm_state	e1						cs	s6	001100		
67	4	seq_detect fsm2_state_18	..._detectsv312	fsm_state	s1						cs	s6_c	001101		
68	5	seq_detect fsm2_state_19	..._detectsv319	fsm_state	s1						cs	s7	001110		

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

I-405 N / US-30 E Accident 9:46 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL,<All> Cov: String/Signal

VCF-GoalList

Time 12H Max Cycle -1 <Filter Target Table by Name>

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
69	1	seq_detect fsm2_state_2	..._detectsv211	fsm_state	s1						cs	s1	000010		
70	6	seq_detect fsm2_state_20	..._detectsv330	fsm_state	s1						cs	s7_c	001111		
71	0	seq_detect fsm2_state_21	..._detectsv337	fsm_state	s1						cs	s8	010000		
72	0	seq_detect fsm2_state_22	..._detectsv348	fsm_state	s1						cs	s8_c	010001		
73	1	seq_detect fsm2_state_23	..._detectsv355	fsm_state	s1						cs	s9	010010		
74	2	seq_detect fsm2_state_24	..._detectsv366	fsm_state	s1						cs	s9_c	010011		
75	0	seq_detect fsm2_state_25	..._Q_detectsv21	fsm_state	s1						cs	so	000000		
76	0	seq_detect fsm2_state_26	..._detectsv204	fsm_state	s1						cs	so_c	000001		
77	3	seq_detect fsm2_state_3	..._detectsv373	fsm_state	s1						cs	s10	010100		
78	4	seq_detect fsm2_state_4	..._detectsv384	fsm_state	s1						cs	s10_c	010101		
79	5	seq_detect fsm2_state_5	..._detectsv391	fsm_state	s1						cs	s11	010110		
80	6	seq_detect fsm2_state_6	..._detectsv402	fsm_state	s1						cs	s11_c	010111		
81	0	seq_detect fsm2_state_7	..._detectsv409	fsm_state	s1						cs	s12	011000		
82	2	seq_detect fsm2_state_8	..._detectsv222	fsm_state	s1						cs	s1_c	000011		
83	2	seq_detect fsm2_state_9	..._detectsv229	fsm_state	s1						cs	s2	000100		
84	0	seq_detect fsm2_trans_0	..._Q_detectsv21	...transition	s1						cs	deadlock	so		
85	0	seq_detect fsm2_trans_1	..._Q_detectsv18	...transition	e1						cs	isolation	deadlock		

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

I-405 N / US-30 E Accident 9:46 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL.<All> Cov: String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
86	X	seq_detect fsm2_trans_10	...Q_detectsv21	...transition	e1						cs		s10	so	
87	✓	0 seq_detect fsm2_trans_100	...Q_detectsv18	...transition	s1						cs		so_c	deadlock	
88	✓	1 seq_detect fsm2_trans_101	..._detectsv211	...transition	s1						cs		so_c	s1	
89	✓	0 seq_detect fsm2_trans_102	...Q_detectsv21	...transition	s1						cs		so_c	so	
90	X	seq_detect fsm2_trans_11	...Q_detectsv18	...transition	e1						cs		s10_c	deadlock	
91	X	seq_detect fsm2_trans_12	..._detectsv393	...transition	e1						cs		s10_c	s10	
92	X	seq_detect fsm2_trans_13	..._detectsv391	...transition	e1						cs		s10_c	s11	
93	X	seq_detect fsm2_trans_14	...Q_detectsv21	...transition	e1						cs		s10_c	so	
94	X	seq_detect fsm2_trans_15	...Q_detectsv18	...transition	e1						cs		s11	deadlock	
95	X	seq_detect fsm2_trans_16	..._detectsv400	...transition	e1						cs		s11	isolation	
96	X	seq_detect fsm2_trans_17	..._detectsv404	...transition	e1						cs		s11	s1	
97	X	seq_detect fsm2_trans_18	..._detectsv402	...transition	e1						cs		s11_c	s11_c	
98	X	seq_detect fsm2_trans_19	...Q_detectsv21	...transition	e1						cs		s11	so	
99	X	seq_detect fsm2_trans_2	...Q_detectsv21	...transition	e1						cs		isolation	so	
100	X	seq_detect fsm2_trans_20	...Q_detectsv18	...transition	e1						cs		s11_c	deadlock	
101	X	seq_detect fsm2_trans_21	..._detectsv411	...transition	e1						cs		s11_c	s11	
102	X	seq_detect fsm2_trans_22	..._detectsv409	...transition	e1						cs		s11_c	s12	

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:46 AM 3/16/2024

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<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL.<All> Cov: String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
102	X	seq_detect fsm2_trans_22	..._detectsv409	...transition	e1						cs		s11_c	s12	
103	X	seq_detect fsm2_trans_23	...Q_detectsv21	...transition	e1						cs		s11_c	so	
104	✓	0 seq_detect fsm2_trans_24	...Q_detectsv18	...transition	s1						cs		s12	deadlock	
105	✓	1 seq_detect fsm2_trans_25	..._detectsv418	...transition	s1						cs		s12	isolation	
106	✓	1 seq_detect fsm2_trans_26	..._detectsv420	...transition	s1						cs		s12	s3	
107	✓	0 seq_detect fsm2_trans_27	...Q_detectsv21	...transition	s1						cs		s12	so	
108	X	seq_detect fsm2_trans_28	...Q_detectsv18	...transition	e1						cs		s1_c	deadlock	
109	X	seq_detect fsm2_trans_29	..._detectsv231	...transition	e1						cs		s1_c	s1	
110	X	seq_detect fsm2_trans_3	...Q_detectsv18	...transition	e1						cs		s1	deadlock	
111	X	seq_detect fsm2_trans_30	..._detectsv229	...transition	e1						cs		s1_c	s2	
112	X	seq_detect fsm2_trans_31	...Q_detectsv21	...transition	e1						cs		s1_c	so	
113	X	seq_detect fsm2_trans_32	...Q_detectsv18	...transition	e1						cs		s2	deadlock	
114	X	seq_detect fsm2_trans_33	..._detectsv238	...transition	e1						cs		s2	isolation	
115	X	seq_detect fsm2_trans_34	..._detectsv240	...transition	e1						cs		s2	s2_c	
116	X	seq_detect fsm2_trans_35	...Q_detectsv21	...transition	e1						cs		s2	so	
117	X	seq_detect fsm2_trans_36	...Q_detectsv18	...transition	e1						cs		s2_c	deadlock	
118	X	seq_detect fsm2_trans_37	..._detectsv249	...transition	e1						cs		s2_c	s2	

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:46 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

String/Signal

VCF-GoalList

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
119		seq_detect fsm2_trans_38	..._detect.sv:247	...ransition	e1						cs		s2_c	s3	
120		seq_detect fsm2_trans_39	...Q_detectsv21	...ransition	e1						cs		s2_c	so	
121		seq_detect fsm2_trans_4	..._detect.sv:220	...ransition	e1						cs		s1	isolation	
122		seq_detect fsm2_trans_40	...Q_detectsv18	...ransition	e1						cs		s3	deadlock	
123		seq_detect fsm2_trans_41	..._detect.sv:256	...ransition	e1						cs		s3	isolation	
124		seq_detect fsm2_trans_42	..._detect.sv:258	...ransition	e1						cs		s3	s3_c	
125		seq_detect fsm2_trans_43	...Q_detectsv21	...ransition	e1						cs		s3	so	
126		seq_detect fsm2_trans_44	...Q_detectsv18	...ransition	e1						cs		s3_c	deadlock	
127		seq_detect fsm2_trans_45	..._detect.sv:267	...ransition	e1						cs		s3_c	s3	
128		seq_detect fsm2_trans_46	..._detect.sv:265	...ransition	e1						cs		s3_c	s4	
129		seq_detect fsm2_trans_47	...Q_detectsv21	...ransition	e1						cs		s3_c	so	
130	0	seq_detect fsm2_trans_48	...Q_detectsv18	...ransition	s1						cs		s4	deadlock	
131	1	seq_detect fsm2_trans_49	..._detect.sv:274	...ransition	s1						cs		s4	isolation	
132		seq_detect fsm2_trans_5	..._detect.sv:222	...ransition	e1						cs		s1	s1_c	
133	0	seq_detect fsm2_trans_50	..._detect.sv:276	...ransition	s1						cs		s4	s4_c	
134	0	seq_detect fsm2_trans_51	...Q_detectsv21	...ransition	s1						cs		s4	so	
135	0	seq_detect fsm2_trans_52	...Q_detectsv18	...ransition	s1						cs		s4_c	deadlock	

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:47 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

String/Signal

VCF-GoalList

Targets: ALL

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
136	0	seq_detect fsm2_trans_53	..._detect.sv:285	...ransition	s1						cs		s4_c	s4	
137	1	seq_detect fsm2_trans_54	..._detect.sv:283	...ransition	s1						cs		s4_c	s5	
138	0	seq_detect fsm2_trans_55	...Q_detectsv21	...ransition	s1						cs		s4_c	so	
139		seq_detect fsm2_trans_56	...Q_detectsv18	...ransition	e1						cs		s5	deadlock	
140		seq_detect fsm2_trans_57	..._detect.sv:292	...ransition	e1						cs		s5	isolation	
141		seq_detect fsm2_trans_58	..._detect.sv:294	...ransition	e1						cs		s5_c		
142		seq_detect fsm2_trans_59	...Q_detectsv21	...ransition	e1						cs		s5	so	
143		seq_detect fsm2_trans_6	...Q_detectsv21	...ransition	e1						cs		s1	so	
144		seq_detect fsm2_trans_60	...Q_detectsv18	...ransition	e1						cs		s5_c	deadlock	
145		seq_detect fsm2_trans_61	..._detect.sv:303	...ransition	e1						cs		s5_c	s5	
146		seq_detect fsm2_trans_62	..._detect.sv:301	...ransition	e1						cs		s5_c	s6	
147		seq_detect fsm2_trans_63	...Q_detectsv21	...ransition	e1						cs		s5_c	so	
148		seq_detect fsm2_trans_64	...Q_detectsv18	...ransition	e1						cs		s6	deadlock	
149		seq_detect fsm2_trans_65	..._detect.sv:310	...ransition	e1						cs		s6	isolation	
150		seq_detect fsm2_trans_66	..._detect.sv:312	...ransition	e1						cs		s6	s6_c	
151		seq_detect fsm2_trans_67	...Q_detectsv21	...ransition	e1						cs		s6	so	
152		seq_detect fsm2_trans_68	...Q_detectsv18	...ransition	e1						cs		s6_c	deadlock	

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

OR-10 / SW Bea... Construction 9:47 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL.<All> Cov: String/Signal

VCF-GoalList

Targets: ALL

	status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
152	✗		seq_detect fsm2_trans_68	...Q_detectsv18	...transition	e1						cs	s6_c	deadlock		
153	✗		seq_detect fsm2_trans_69	..._detectsv321	...transition	e1						cs	s6_c	s6		
154	✗		seq_detect fsm2_trans_7	...Q_detectsv18	...transition	e1						cs	s10	deadlock		
155	✗		seq_detect fsm2_trans_70	..._detectsv319	...transition	e1						cs	s6_c	s7		
156	✗		seq_detect fsm2_trans_71	...Q_detectsv21	...transition	e1						cs	s6_c	so		
157	✗		seq_detect fsm2_trans_72	...Q_detectsv18	...transition	e1						cs	s7	deadlock		
158	✗		seq_detect fsm2_trans_73	..._detectsv328	...transition	e1						cs	s7	isolation		
159	✗		seq_detect fsm2_trans_74	..._detectsv330	...transition	e1						cs	s7	s7_c		
160	✗		seq_detect fsm2_trans_75	...Q_detectsv21	...transition	e1						cs	s7	so		
161	✗		seq_detect fsm2_trans_76	...Q_detectsv18	...transition	e1						cs	s7_c	deadlock		
162	✗		seq_detect fsm2_trans_77	..._detectsv339	...transition	e1						cs	s7_c	s7		
163	✗		seq_detect fsm2_trans_78	..._detectsv337	...transition	e1						cs	s7_c	s8		
164	✗		seq_detect fsm2_trans_79	...Q_detectsv21	...transition	e1						cs	s7_c	so		
165	✗		seq_detect fsm2_trans_8	..._detectsv382	...transition	e1						cs	s10	isolation		
166	✓	0	seq_detect fsm2_trans_80	...Q_detectsv18	...transition	s1						cs	s8	deadlock		
167	✓	1	seq_detect fsm2_trans_81	..._detectsv346	...transition	s1						cs	s8	isolation		
168	✓	0	seq_detect fsm2_trans_82	..._detectsv348	...transition	s1						cs	s8	s8_c		

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

OR-10 / SW Bea... Construction 9:47 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL.<All> Cov: String/Signal

VCF-GoalList

Targets: ALL

	status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
168	✓	0	seq_detect fsm2_trans_82	..._detectsv348	...transition	s1						cs	s8	s8_c		
169	✓	0	seq_detect fsm2_trans_83	...Q_detectsv21	...transition	s1						cs	s8	so		
170	✓	0	seq_detect fsm2_trans_84	...Q_detectsv18	...transition	s1						cs	s8_c	deadlock		
171	✓	0	seq_detect fsm2_trans_85	..._detectsv357	...transition	s1						cs	s8_c	s8		
172	✓	1	seq_detect fsm2_trans_86	..._detectsv355	...transition	s1						cs	s8_c	s9		
173	✓	0	seq_detect fsm2_trans_87	...Q_detectsv21	...transition	s1						cs	s8_c	so		
174	✗		seq_detect fsm2_trans_88	...Q_detectsv18	...transition	e1						cs	s9	deadlock		
175	✗		seq_detect fsm2_trans_89	..._detectsv364	...transition	e1						cs	s9	isolation		
176	✗		seq_detect fsm2_trans_9	..._detectsv384	...transition	e1						cs	s10	s10_c		
177	✗		seq_detect fsm2_trans_90	..._detectsv368	...transition	e1						cs	s9	s2		
178	✗		seq_detect fsm2_trans_91	..._detectsv366	...transition	e1						cs	s9	s9_c		
179	✗		seq_detect fsm2_trans_92	...Q_detectsv21	...transition	e1						cs	s9	so		
180	✗		seq_detect fsm2_trans_93	...Q_detectsv18	...transition	e1						cs	s9_c	deadlock		
181	✗		seq_detect fsm2_trans_94	..._detectsv373	...transition	e1						cs	s9_c	s10		
182	✗		seq_detect fsm2_trans_95	..._detectsv375	...transition	e1						cs	s9_c	s9		
183	✗		seq_detect fsm2_trans_96	...Q_detectsv21	...transition	e1						cs	s9_c	so		
184	✓	0	seq_detect fsm2_trans_97	...Q_detectsv18	...transition	s1						cs	s9	deadlock		

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

OR-10 / SW Bea... Construction 9:48 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF-GoalList

	status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
187	✓	1	seq_detect.line_0	..._Q_detectsv17	line	s1			ALWAYS							
188	✓	1	seq_detect.line_1	..._Q_detectsv18	line	s1			IF							
189	✓	0	seq_detect.line_10	..._Q_detectsv46	line	s1			IF							
190	✓	1	seq_detect.line_100	..._detectsv255	line	s1			ELSE							
191	✗		seq_detect.line_101	..._detectsv256	line	e1			IF							
192	✓	1	seq_detect.line_102	..._detectsv257	line	s1			ELSE							
193	✓	1	seq_detect.line_103	..._detectsv258	line	s1			IF							
194	✓	1	seq_detect.line_104	..._detectsv260	line	s1			ELSE							
195	✓	2	seq_detect.line_105	..._detectsv263	line	s1			CASEITEM							
196	✓	2	seq_detect.line_106	..._detectsv265	line	s1			IF							
197	✓	2	seq_detect.line_107	..._detectsv267	line	s1			ELSE							
198	✓	0	seq_detect.line_108	..._detectsv270	line	s1			CASEITEM							
199	✓	0	seq_detect.line_109	..._detectsv272	line	s1			IF							
200	✓	0	seq_detect.line_111	..._Q_detectsv48	line	s1			ELSE							
201	✓	0	seq_detect.line_110	..._detectsv273	line	s1			ELSE							
202	✓	0	seq_detect.line_111	..._detectsv274	line	s1			IF							
203	✓	0	seq_detect.line_112	..._detectsv275	line	s1			ELSE							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

OR-10 / SW Bea... Construction 9:48 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF-GoalList

	status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
204	✓	0	seq_detect.line_113	..._detectsv276	line	s1			IF							
205	✓	0	seq_detect.line_114	..._detectsv278	line	s1			ELSE							
206	✓	0	seq_detect.line_115	..._detectsv281	line	s1			CASEITEM							
207	✓	0	seq_detect.line_116	..._detectsv283	line	s1			IF							
208	✓	0	seq_detect.line_117	..._detectsv285	line	s1			ELSE							
209	✓	1	seq_detect.line_118	..._detectsv288	line	s1			CASEITEM							
210	✗		seq_detect.line_119	..._detectsv290	line	e1			IF							
211	✓	0	seq_detect.line_12	..._Q_detectsv51	line	s1			CASEITEM							
212	✓	1	seq_detect.line_120	..._detectsv291	line	s1			ELSE							
213	✓	1	seq_detect.line_121	..._detectsv292	line	s1			IF							
214	✓	1	seq_detect.line_122	..._detectsv293	line	s1			ELSE							
215	✓	1	seq_detect.line_123	..._detectsv294	line	s1			IF							
216	✓	1	seq_detect.line_124	..._detectsv296	line	s1			ELSE							
217	✓	2	seq_detect.line_125	..._detectsv299	line	s1			CASEITEM							
218	✓	2	seq_detect.line_126	..._detectsv301	line	s1			IF							
219	✓	2	seq_detect.line_127	..._detectsv303	line	s1			ELSE							
220	✓	3	seq_detect.line_128	..._detectsv306	line	s1			CASEITEM							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:48 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF-GoalList

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
221		seq_detect.line_129	..._detect.sv:308	line	e1			IF							
222	✓	0 seq_detect.line_13	..._Q_detect.sv:53	line	s1			IF							
223	✓	3 seq_detect.line_130	..._detect.sv:309	line	s1			ELSE							
224	✗	seq_detect.line_131	..._detect.sv:310	line	e1			IF							
225	✓	3 seq_detect.line_132	..._detect.sv:311	line	s1			ELSE							
226	✓	3 seq_detect.line_133	..._detect.sv:312	line	s1			IF							
227	✓	3 seq_detect.line_134	..._detect.sv:314	line	s1			ELSE							
228	✓	4 seq_detect.line_135	..._detect.sv:317	line	s1			CASEITEM							
229	✓	4 seq_detect.line_136	..._detect.sv:319	line	s1			IF							
230	✓	4 seq_detect.line_137	..._detect.sv:321	line	s1			ELSE							
231	✓	5 seq_detect.line_138	..._detect.sv:324	line	s1			CASEITEM							
232	✗	seq_detect.line_139	..._detect.sv:326	line	e1			IF							
233	✓	0 seq_detect.line_14	..._Q_detect.sv:55	line	s1			ELSE							
234	✓	5 seq_detect.line_140	..._detect.sv:327	line	s1			ELSE							
235	✓	6 seq_detect.line_141	..._detect.sv:328	line	s1			IF							
236	✓	5 seq_detect.line_142	..._detect.sv:329	line	s1			ELSE							
237	✓	5 seq_detect.line_143	..._detect.sv:330	line	s1			IF							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:48 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF-GoalList

status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
239	✓	6 seq_detect.line_145	..._detect.sv:335	line	s1			CASEITEM							
240	✓	7 seq_detect.line_146	..._detect.sv:337	line	s1			IF							
241	✓	6 seq_detect.line_147	..._detect.sv:339	line	s1			ELSE							
242	✓	0 seq_detect.line_148	..._detect.sv:342	line	s1			CASEITEM							
243	✓	0 seq_detect.line_149	..._detect.sv:344	line	s1			IF							
244	✓	0 seq_detect.line_15	..._Q_detect.sv:58	line	s1			CASEITEM							
245	✓	0 seq_detect.line_150	..._detect.sv:345	line	s1			ELSE							
246	✓	0 seq_detect.line_151	..._detect.sv:346	line	s1			IF							
247	✓	0 seq_detect.line_152	..._detect.sv:347	line	s1			ELSE							
248	✓	0 seq_detect.line_153	..._detect.sv:348	line	s1			IF							
249	✓	0 seq_detect.line_154	..._detect.sv:350	line	s1			ELSE							
250	✓	0 seq_detect.line_155	..._detect.sv:353	line	s1			CASEITEM							
251	✓	0 seq_detect.line_156	..._detect.sv:355	line	s1			IF							
252	✓	0 seq_detect.line_157	..._detect.sv:357	line	s1			ELSE							
253	✓	1 seq_detect.line_158	..._detect.sv:360	line	s1			CASEITEM							
254	✗	seq_detect.line_159	..._detect.sv:362	line	e1			IF							
255	✓	0 seq_detect.line_16	..._Q_detect.sv:60	line	s1			IF							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:48 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL,<All> Cov: String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
256	✓	seq_detect.line_160	..._detect.sv.363	line	s1			ELSE							
257	✓	seq_detect.line_161	..._detect.sv.364	line	s1			IF							
258	✓	seq_detect.line_162	..._detect.sv.365	line	s1			ELSE							
259	✓	seq_detect.line_163	..._detect.sv.366	line	s1			IF							
260	✓	seq_detect.line_164	..._detect.sv.368	line	s1			ELSE							
261	✓	seq_detect.line_165	..._detect.sv.371	line	s1			CASEITEM							
262	✓	seq_detect.line_166	..._detect.sv.373	line	s1			IF							
263	✓	seq_detect.line_167	..._detect.sv.375	line	s1			ELSE							
264	✓	seq_detect.line_168	..._detect.sv.378	line	s1			CASEITEM							
265	✗	seq_detect.line_169	..._detect.sv.380	line	e1			IF							
266	✓	seq_detect.line_17	..._detect.sv.62	line	s1			ELSE							
267	✓	seq_detect.line_170	..._detect.sv.381	line	s1			ELSE							
268	✗	seq_detect.line_171	..._detect.sv.382	line	e1			IF							
269	✓	seq_detect.line_172	..._detect.sv.383	line	s1			ELSE							
270	✓	seq_detect.line_173	..._detect.sv.384	line	s1			IF							
271	✓	seq_detect.line_174	..._detect.sv.386	line	s1			ELSE							
272	✓	seq_detect.line_175	..._detect.sv.389	line	s1			CASEITEM							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:49 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL,<All> Cov: String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
273	✓	seq_detect.line_176	..._detect.sv.391	line	s1			IF							
274	✓	seq_detect.line_177	..._detect.sv.393	line	s1			ELSE							
275	✓	seq_detect.line_178	..._detect.sv.396	line	s1			CASEITEM							
276	✗	seq_detect.line_179	..._detect.sv.398	line	e1			IF							
277	✓	seq_detect.line_18	..._detect.sv.65	line	s1			CASEITEM							
278	✓	seq_detect.line_180	..._detect.sv.399	line	s1			ELSE							
279	✗	seq_detect.line_181	..._detect.sv.400	line	e1			IF							
280	✓	seq_detect.line_182	..._detect.sv.401	line	s1			ELSE							
281	✓	seq_detect.line_183	..._detect.sv.402	line	s1			IF							
282	✓	seq_detect.line_184	..._detect.sv.404	line	s1			ELSE							
283	✓	seq_detect.line_185	..._detect.sv.407	line	s1			CASEITEM							
284	✓	seq_detect.line_186	..._detect.sv.409	line	s1			IF							
285	✓	seq_detect.line_187	..._detect.sv.411	line	s1			ELSE							
286	✓	seq_detect.line_188	..._detect.sv.414	line	s1			CASEITEM							
287	✓	seq_detect.line_189	..._detect.sv.416	line	s1			IF							
288	✓	seq_detect.line_19	..._detect.sv.67	line	s1			IF							
289	✓	seq_detect.line_190	..._detect.sv.417	line	s1			ELSE							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:49 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL,<All> Cov: String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
290	✓	0 seq_detect.line_191	..._detectsv:418	line	s1			IF							
291	✓	0 seq_detect.line_192	..._detectsv:419	line	s1			ELSE							
292	✓	0 seq_detect.line_193	..._detectsv:420	line	s1			IF							
293	✓	0 seq_detect.line_194	..._detectsv:422	line	s1			ELSE							
294	✓	0 seq_detect.line_195	..._detectsv:425	line	s1			CASEITEM							
295	✓	1 seq_detect.line_196	..._detectsv:429	line	s1			CASEITEM							
296	✗	seq_detect.line_197	..._detectsv:431	line	s1			IF							
297	✓	1 seq_detect.line_198	..._detectsv:433	line	s1			ELSE							
298	✗	seq_detect.line_199	..._detectsv:436	line	e1			CASEITEM							
299	✓	1 seq_detect.line_2	..._Q_detectsv:19	line	s1			ELSE							
300	✓	0 seq_detect.line_20	..._Q_detectsv:69	line	s1			ELSE							
301	✓	0 seq_detect.line_21	..._Q_detectsv:72	line	s1			CASEITEM							
302	✓	0 seq_detect.line_22	..._Q_detectsv:74	line	s1			IF							
303	✓	0 seq_detect.line_23	..._Q_detectsv:76	line	s1			ELSE							
304	✓	0 seq_detect.line_24	..._Q_detectsv:79	line	s1			CASEITEM							
305	✓	0 seq_detect.line_25	..._Q_detectsv:81	line	s1			IF							
306	✓	0 seq_detect.line_26	..._Q_detectsv:83	line	s1			ELSE							

Cov mode: UA ; Total Properties: 448 ; passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:49 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

CovSrc: EXCL,<All> Cov: String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
307	✓	0 seq_detect.line_27	..._Q_detectsv:86	line	s1			CASEITEM							
308	✓	0 seq_detect.line_28	..._Q_detectsv:88	line	s1			IF							
309	✓	0 seq_detect.line_29	..._Q_detectsv:90	line	s1			ELSE							
310	✗	seq_detect.line_3	..._Q_detectsv:21	line	t3			IF							
311	✓	0 seq_detect.line_30	..._Q_detectsv:93	line	s1			CASEITEM							
312	✓	0 seq_detect.line_31	..._Q_detectsv:95	line	s1			IF							
313	✓	0 seq_detect.line_32	..._Q_detectsv:97	line	s1			ELSE							
314	✓	0 seq_detect.line_33	..._detectsv:100	line	s1			CASEITEM							
315	✓	0 seq_detect.line_34	..._detectsv:102	line	s1			IF							
316	✓	0 seq_detect.line_35	..._detectsv:104	line	s1			ELSE							
317	✓	0 seq_detect.line_36	..._detectsv:107	line	s1			CASEITEM							
318	✓	0 seq_detect.line_37	..._detectsv:111	line	s1			CASEITEM							
319	✓	0 seq_detect.line_38	..._detectsv:120	line	s1			ALWAYS							
320	✓	0 seq_detect.line_39	..._detectsv:122	line	s1			CASEITEM							
321	✓	1 seq_detect.line_4	..._Q_detectsv:27	line	s1			ELSE							
322	✓	0 seq_detect.line_40	..._detectsv:124	line	s1			IF							
323	✓	0 seq_detect.line_41	..._detectsv:126	line	s1			ELSE							

Cov mode: UA ; Total Properties: 448 ; passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:50 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF-GoalList

Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
324	✓	seq_detect.line_42	..._detect.sv:129	line	s1			CASEITEM							
325	✓	seq_detect.line_43	..._detect.sv:131	line	s1			IF							
326	✓	seq_detect.line_44	..._detect.sv:133	line	s1			ELSE							
327	✓	seq_detect.line_45	..._detect.sv:136	line	s1			CASEITEM							
328	✓	seq_detect.line_46	..._detect.sv:138	line	s1			IF							
329	✓	seq_detect.line_47	..._detect.sv:140	line	s1			ELSE							
330	✓	seq_detect.line_48	..._detect.sv:143	line	s1			CASEITEM							
331	✓	seq_detect.line_49	..._detect.sv:145	line	s1			IF							
332	✓	seq_detect.line_5	..._Q_detect.sv:35	line	s1			ALWAYS							
333	✓	seq_detect.line_50	..._detect.sv:147	line	s1			ELSE							
334	✓	seq_detect.line_51	..._detect.sv:150	line	s1			CASEITEM							
335	✓	seq_detect.line_52	..._detect.sv:152	line	s1			IF							
336	✓	seq_detect.line_53	..._detect.sv:154	line	s1			ELSE							
337	✓	seq_detect.line_54	..._detect.sv:157	line	s1			CASEITEM							
338	✓	seq_detect.line_55	..._detect.sv:159	line	s1			IF							
339	✓	seq_detect.line_56	..._detect.sv:161	line	s1			ELSE							
340	✓	seq_detect.line_57	..._detect.sv:164	line	s1			CASEITEM							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

64°F Sunny 9:50 AM 3/16/2024

auto.ece.pdx.edu:28 (koganti) - TigerVNC

Applications Places System

<Verdi-Apex:nTraceMain:1> seq_detect seq_detect (SEQ_detect.sv) - /home/.../verdi/constant.udb

File View Source OneTrace Tools Window Help

SEQ A Appmode: COV CovSrc: EXCL,<All> COV String/Signal

VCF-GoalList

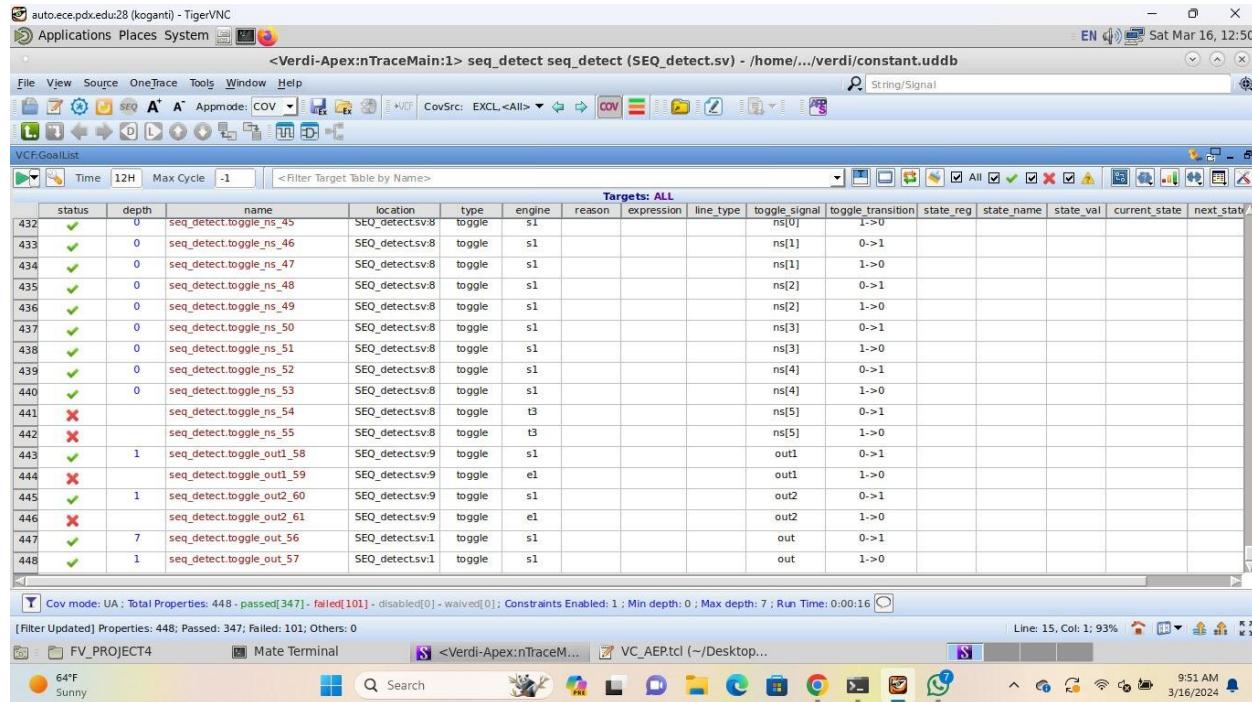
Targets: ALL															
status	depth	name	location	type	engine	reason	expression	line_type	toggle_signal	toggle_transition	state_reg	state_name	state_val	current_state	next_state
341	✓	seq_detect.line_58	..._detect.sv:166	line	s1			IF							
342	✓	seq_detect.line_59	..._detect.sv:168	line	s1			ELSE							
343	✓	seq_detect.line_6	..._Q_detect.sv:37	line	s1			CASEITEM							
344	✓	seq_detect.line_60	..._detect.sv:171	line	s1			CASEITEM							
345	✓	seq_detect.line_61	..._detect.sv:173	line	s1			IF							
346	✓	seq_detect.line_62	..._detect.sv:175	line	s1			ELSE							
347	✓	seq_detect.line_63	..._detect.sv:178	line	s1			CASEITEM							
348	✗	seq_detect.line_64	..._detect.sv:180	line	s1			IF							
349	✓	seq_detect.line_65	..._detect.sv:182	line	s1			ELSE							
350	✓	seq_detect.line_66	..._detect.sv:185	line	s1			CASEITEM							
351	✓	seq_detect.line_67	..._detect.sv:196	line	s1			ALWAYS							
352	✓	seq_detect.line_68	..._detect.sv:198	line	s1			CASEITEM							
353	✓	seq_detect.line_69	..._detect.sv:200	line	s1			IF							
354	✓	seq_detect.line_7	..._Q_detect.sv:39	line	s1			IF							
355	✓	seq_detect.line_70	..._detect.sv:201	line	s1			ELSE							
356	✓	seq_detect.line_71	..._detect.sv:202	line	s1			IF							
357	✓	seq_detect.line_72	..._detect.sv:203	line	s1			ELSE							

Cov mode: UA ; Total Properties: 448 - passed[347] - failed[101] - disabled[0] - waived[0] ; Constraints Enabled: 1 ; Min depth: 0 ; Max depth: 7 ; Run Time: 0:00:16

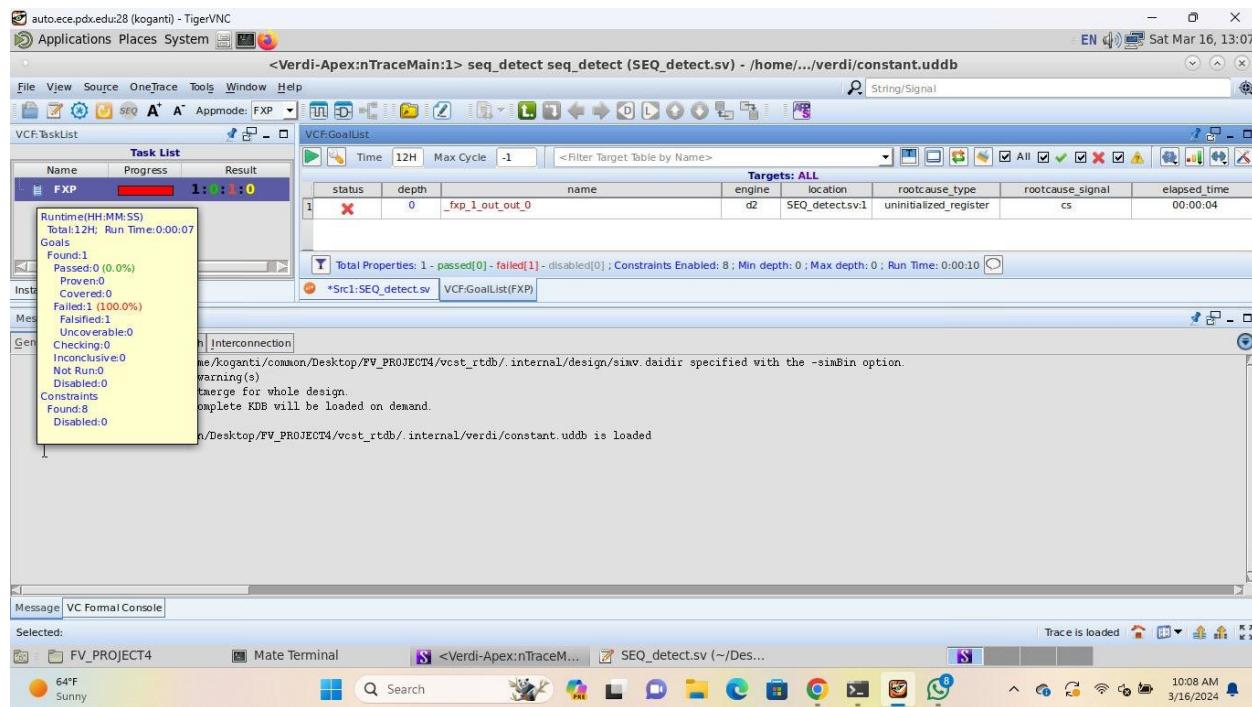
[Filter Updated] Properties: 448; Passed: 347; Failed: 101; Others: 0

FV_PROJECT4 Mate Terminal <Verdi-Apex:nTraceM... VC_AEP.tcl (~/Desktop...) Line: 15, Col: 1; 93%

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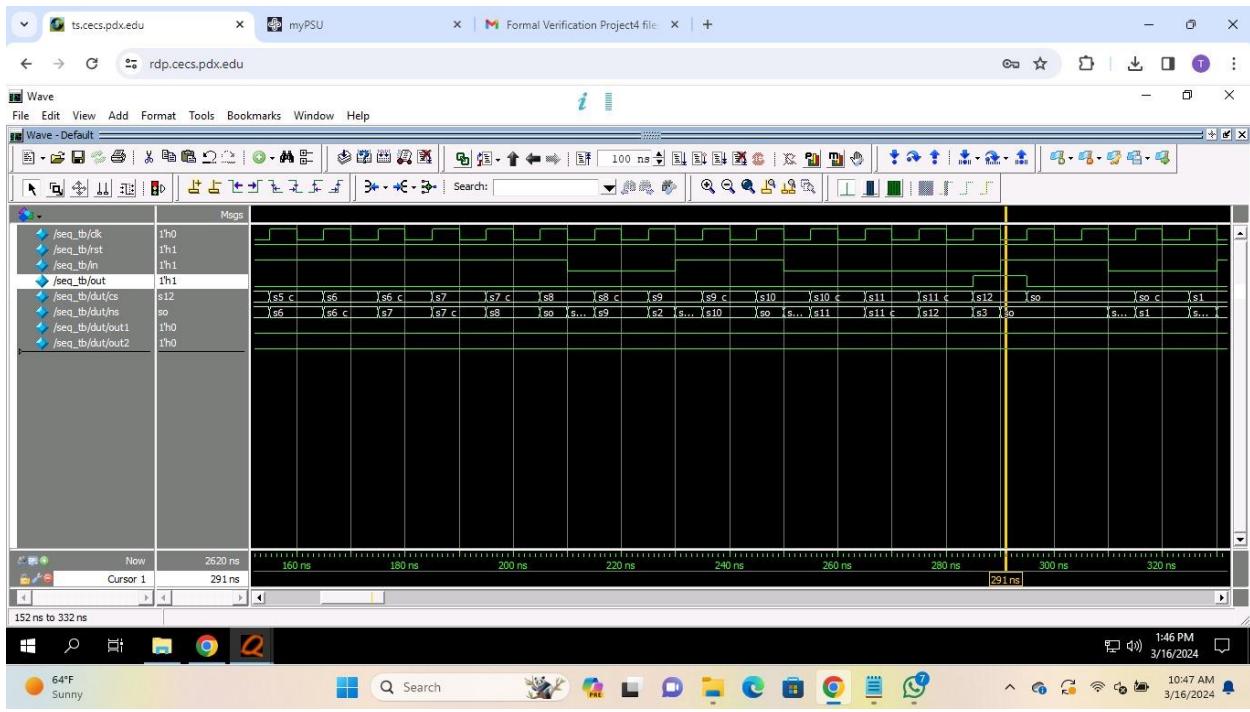
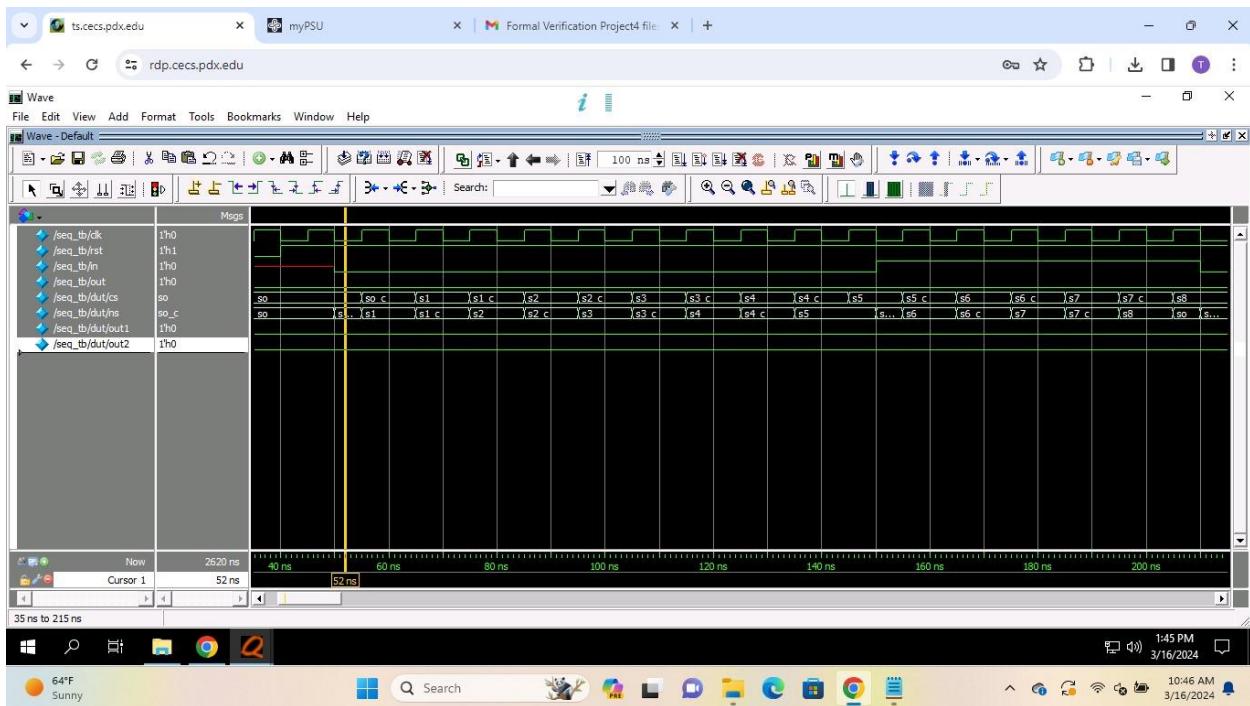


VC FORMAL FXP

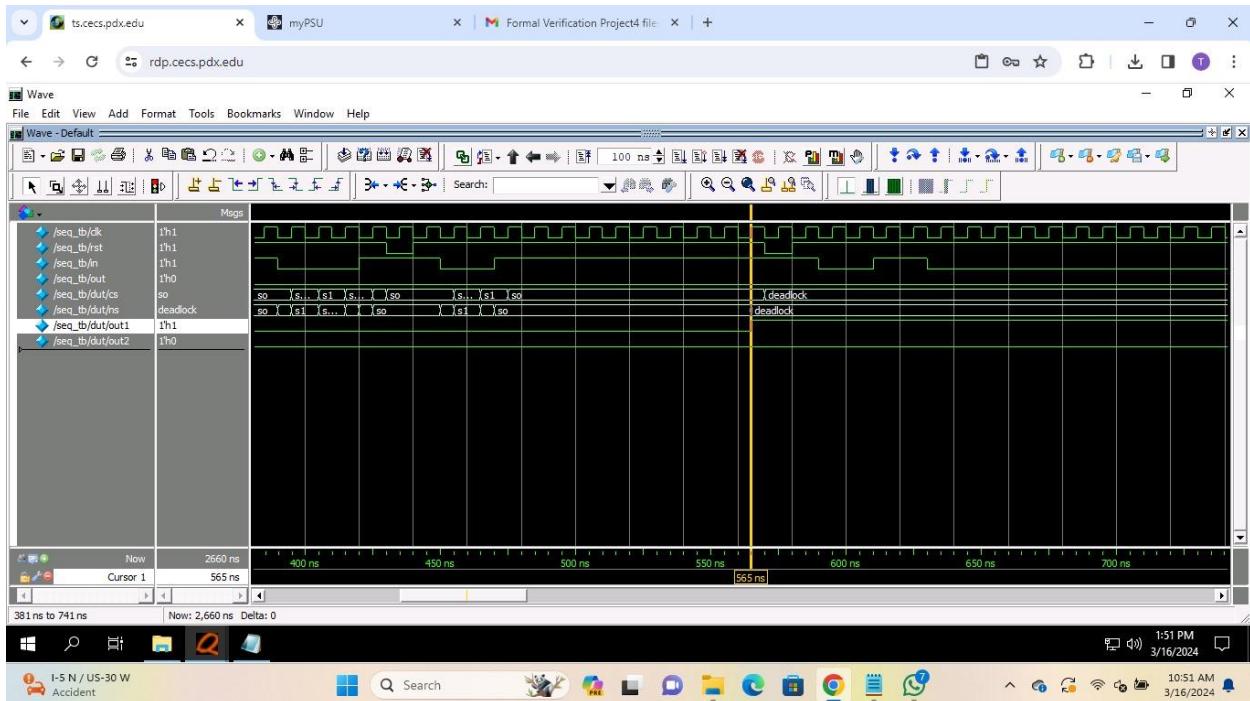


Comments: we have taken care of all the cases we have known for instance: Avoiding unwanted latches, no cases of unknowns for all the variables and ports, included unique cases as well as default statements but couldn't get the output which pass all the cases.

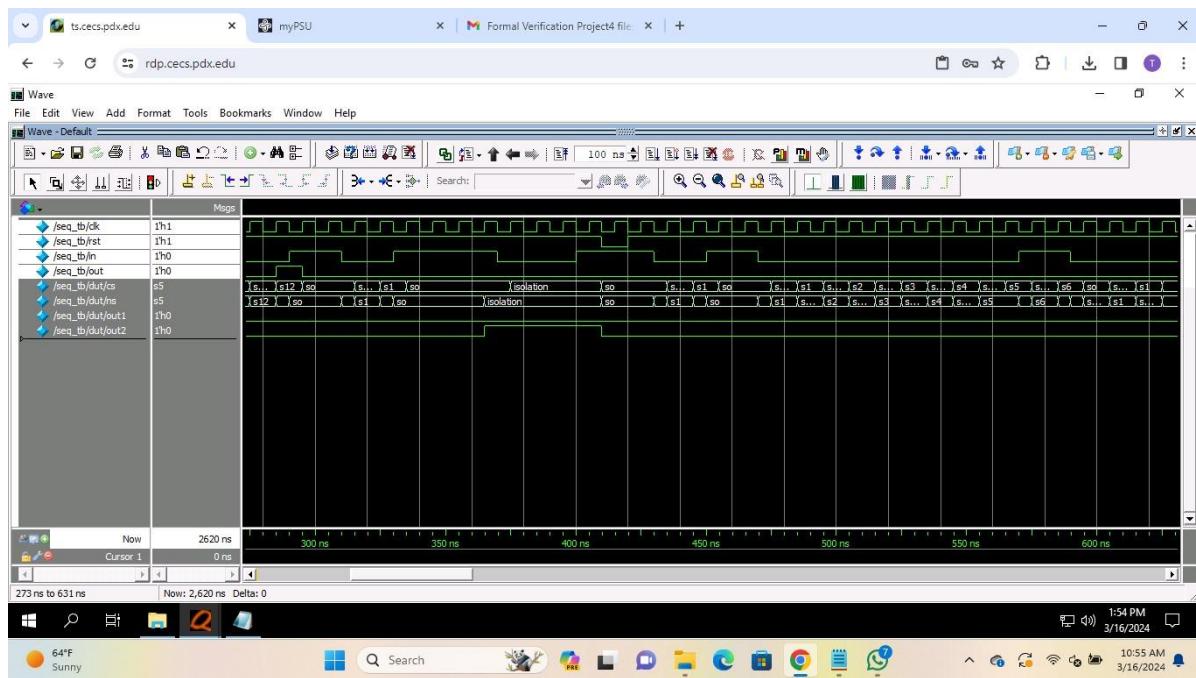
WAVEFORM for sequence detection

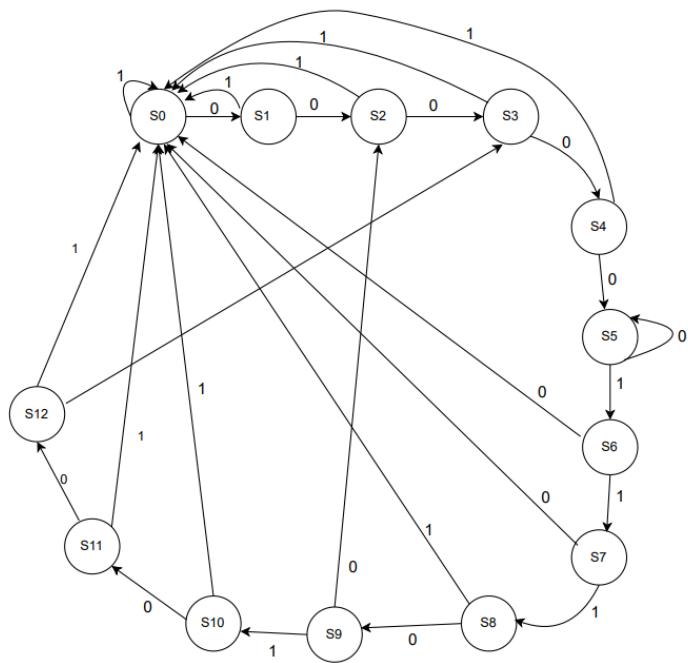
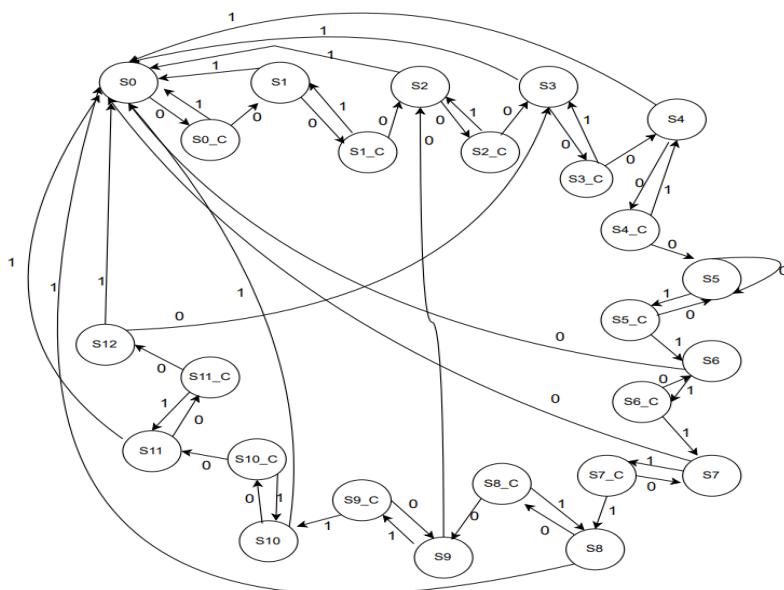


WAVEFORM FOR DEADLOCK

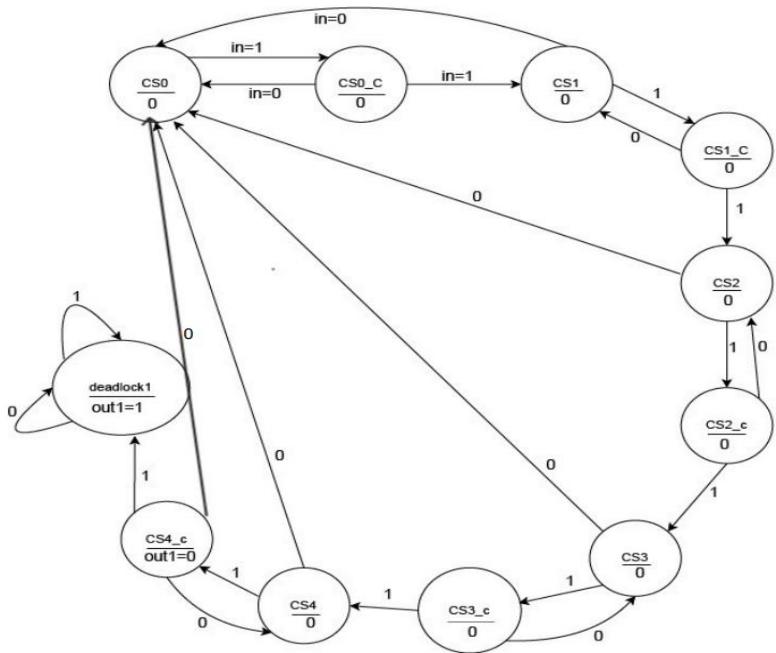


WAVEFORM FOR ISOLATION

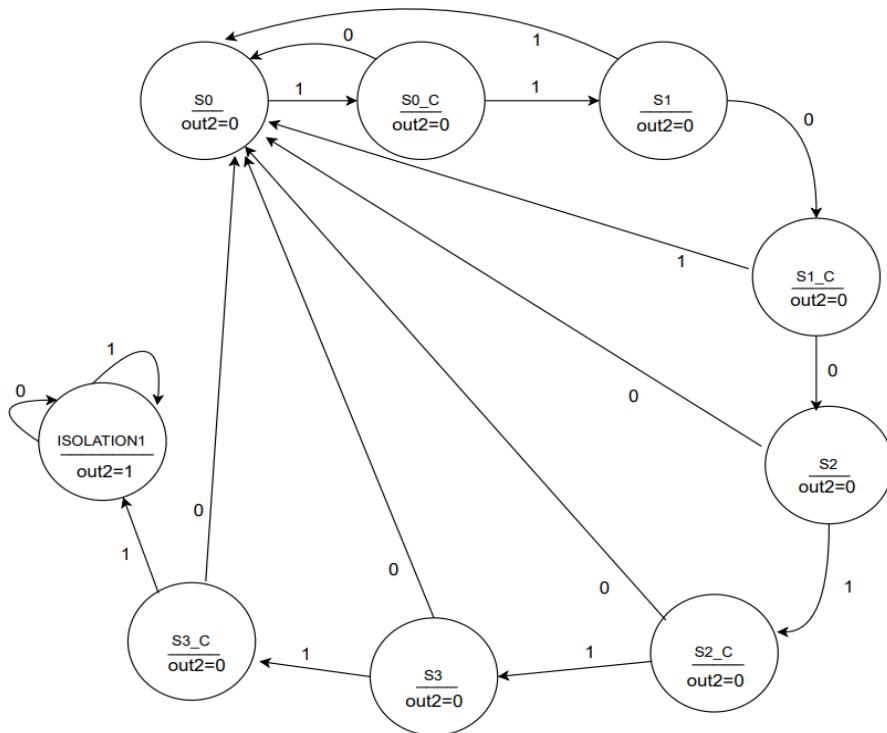


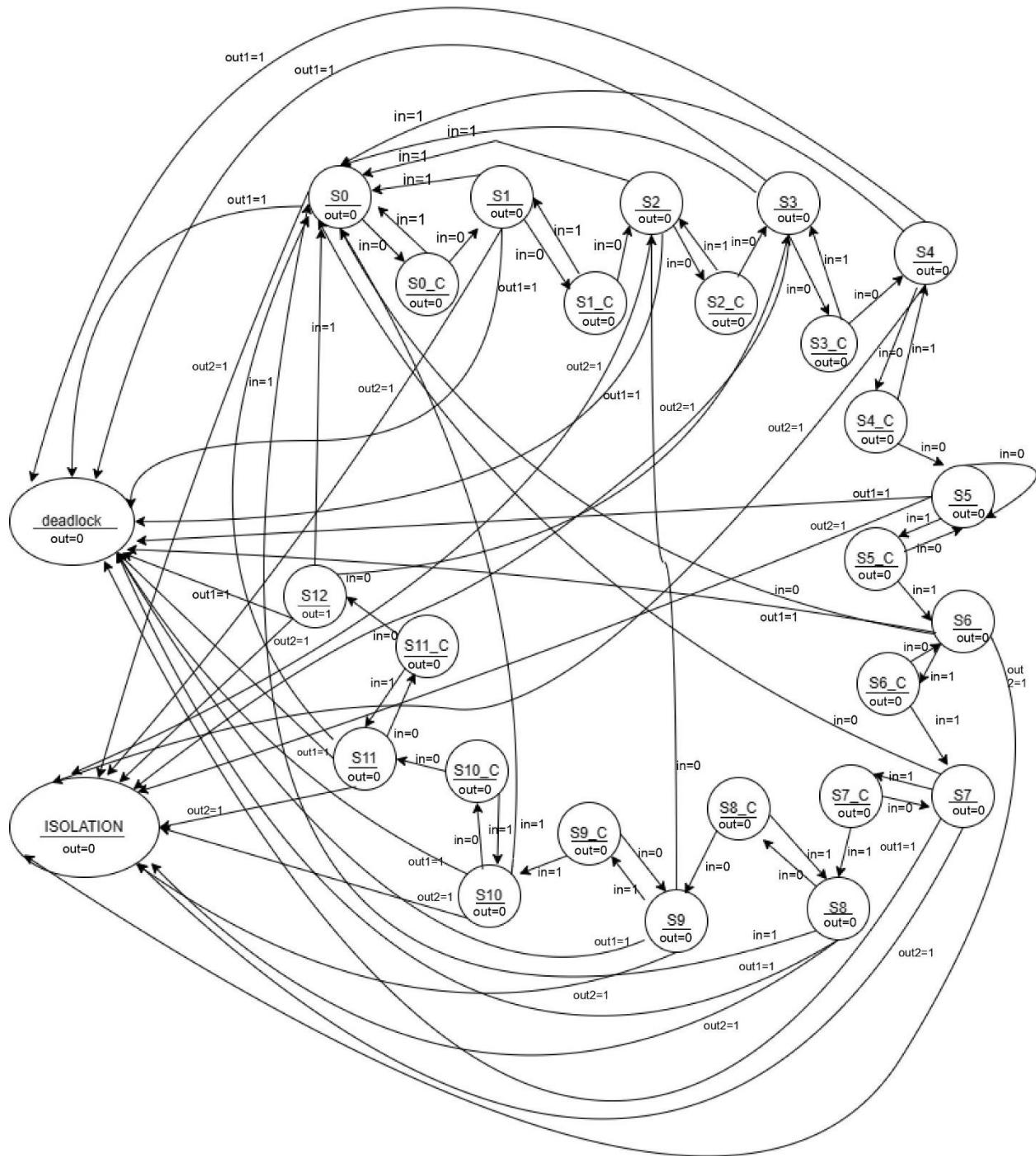
FSM:**FSM with check states:**

FSM deadlock:



FSM isolation:





System Verilog code for Sequence detector:

```

module seq_detect(input logic clk,rst,in,output logic out);

typedef enum logic
[4:0]{so,so_c,s1,s1_c,s2,s2_c,s3,s3_c,s4,s4_c,s5,s5_c,s6,s6_c,s7,s7_c,s8,s8_c,s9,s9_c,s10,s10_c,
s11,s11_c,s12,deadlock,isolation}state;

```

```

typedef enum logic [3:0]{S0,S0_C,S1,S1_C,S2,S2_C,S3,S3_C,isolation1}st;
typedef enum logic
[3:0]{CS0,CS0_C,CS1,CS1_C,CS2,CS2_C,CS3,CS3_C,CS4,CS4_C,CS5,CS5_C,deadlock1}sta;
sta NS,CS;
st N,C;
state cs,ns;
logic out1,out2;

//sequence:0000 0111 0100
//deadlock sequence:11111
//isolation sequence:1011

always_ff@(posedge clk or negedge rst)
begin
if(out1)
  cs <= deadlock;
else if(!rst)
  begin
    cs <= so;
    C <= S0;
    CS <= CS0;
  end
else
  begin
    cs <= ns;
    C <= N;
    CS <= NS;
  end
end

```

```
always_comb
begin
    out1 = 1'b0;
    NS = CS;
    unique case(CS)
        CS0 : begin
            out1 = 1'b0;
            if(in)
                NS = CS0_C;
            else
                NS = CS0;
        end
        CS0_C : begin
            out1 = 1'b0;
            if(in)
                NS = CS1;
            else
                NS = CS0;
        end
        CS1 : begin
            out1 = 1'b0;
            if(in)
                NS = CS1_C;
            else
                NS = CS0;
        end
        CS1_C : begin
            out1 = 1'b0;
```

```
if(in)
  NS = CS2;
else
  NS = CS0;
end

CS2 : begin
  out1 = 1'b0;
  if(in)
    NS = CS2_C;
  else
    NS = CS0;
end

CS2_C : begin
  out1 = 1'b0;
  if(in)
    NS = CS3;
  else
    NS = CS0;
end

CS3 : begin
  out1 = 1'b0;
  if(in)
    NS = CS3_C;
  else
    NS = CS0;
end

CS3_C : begin
  out1 = 1'b0;
  if(in)
```

```
NS = CS4;
else
  NS = CS0;
end

CS4 : begin
  out1 = 1'b0;
  if(in)
    NS = CS4_C;
  else
    NS = CS0;
end

CS4_C : begin
  out1 = 1'b0;
  if(in)
    NS = deadlock1;
  else
    NS = CS0;
end

deadlock1 : begin
  NS = deadlock1;
  out1 = 1'b1;
end

default : begin
  NS = CS;
  out1 = 1'b0;
end

endcase
end

//assign out1 = (CS==deadlock1) ? 1'b1 : 1'b0;
```

```
always_comb
begin
    out2 = 1'b0;
    N = C;
    unique case(C)
        S0 : begin
            out2 = 1'b0;
            if(in)
                N = S0_C;
            else
                N = S0;
        end
        S0_C : begin
            out2 = 1'b0;
            if(in)
                N = S1;
            else
                N = S0;
        end
        S1 : begin
            out2 = 1'b0;
            if(!in)
                N = S1_C;
            else
                N = S0;
        end
        S1_C : begin
            out2 = 1'b0;
```

```
if(!in)
N = S2;
else
N = S0;
end

S2 : begin
out2 = 1'b0;
if(in)
N = S2_C;
else
N = S0;
end

S2_C :begin
out2 = 1'b0;
if(in)
N = S3;
else
N = S0;
end

S3 : begin
out2 = 1'b0;
if(in)
N = S3_C;
else
N = S0;
end

S3_C : begin
out2 = 1'b0;
if(in)
```

```

N = isolation1;
else
  N = S0;
end

isolation1 : begin
  out2 = 1'b1;
  if(!rst)
    N = S0;
  else
    N = isolation1;
end

default : begin
  N = C;
  out2 = 1'b0;
end

endcase
end

//assign out2 = (C==isolation1) ? 1'b1 : 1'b0;

```

```

always_comb
begin
  out = 1'b0;
  ns = cs;
  unique case(cs)
    so : begin
      out = 1'b0;
      if(out1)
        ns = deadlock;

```

```
else if(out2)
    ns = isolation;
else if(!in)
    ns = so_c;
else
    ns = so;
end
```

```
so_c : begin
    out = 1'b0;
    if(!in)
        ns = s1;
    else
        ns = so;
end
```

```
s1 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s1_c;
    else
        ns = so;
end
```

```
s1_c : begin
    out = 1'b0;
    if(!in)
        ns = s2;
```

```
else
    ns = s1;
end

s2 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s2_c;
    else
        ns = so;
end

s2_c : begin
    out = 1'b0;
    if(!in)
        ns = s3;
    else
        ns = s2;
end

s3 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s3_c;
```

```
else
    ns = so;
end

s3_c : begin
    out = 1'b0;
    if(!in)
        ns = s4;
    else
        ns = s3;
end

s4 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s4_c;
    else
        ns = so;
end

s4_c : begin
    out = 1'b0;
    if(!in)
        ns = s5;
    else
        ns = s4;
end

s5 : begin
```

```
out = 1'b0;
if(out1)
    ns = deadlock;
else if(out2)
    ns = isolation;
else if(in)
    ns = s5_c;
else
    ns = s5;
end

s5_c : begin
    out = 1'b0;
    if(in)
        ns = s6;
    else
        ns = s5;
end

s6 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(in)
        ns = s6_c;
    else
        ns = so;
end

s6_c : begin
```

```
out = 1'b0;
```

```
if(in)
```

```
ns = s7;
```

```
else
```

```
ns = s6;
```

```
end
```

```
s7 : begin
```

```
out = 1'b0;
```

```
if(out1)
```

```
ns = deadlock;
```

```
else if(out2)
```

```
ns = isolation;
```

```
else if(in)
```

```
ns = s7_c;
```

```
else
```

```
ns = so;
```

```
end
```

```
s7_c : begin
```

```
out = 1'b0;
```

```
if(in)
```

```
ns = s8;
```

```
else
```

```
ns = s7;
```

```
end
```

```
s8 : begin
```

```
out = 1'b0;
```

```
if(out1)
```

```
ns = deadlock;
```

```
else if(out2)
```

```
ns = isolation;
else if(!in)
    ns = s8_c;
else
    ns = so;
end

s8_c : begin
    out = 1'b0;
    if(!in)
        ns = s9;
    else
        ns = s8;
end

s9 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(in)
        ns = s9_c;
    else
        ns = s2;
end

s9_c : begin
    out = 1'b0;
    if(in)
        ns = s10;
    else
```

```
ns = s9;
end

s10 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s10_c;
    else
        ns = so;
end

s10_c : begin
    out = 1'b0;
    if(!in)
        ns = s11;
    else
        ns = s10;
end

s11 : begin
    out = 1'b0;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s11_c;
    else
```

```
ns = s1;
end

s11_c : begin
    out = 1'b0;
    if(!in)
        ns = s12;
    else
        ns = s11;
end

s12 : begin
    out = 1'b1;
    if(out1)
        ns = deadlock;
    else if(out2)
        ns = isolation;
    else if(!in)
        ns = s3;
    else
        ns = so;
end

deadlock : begin
    out = 1'b0;
    ns = deadlock;
end

isolation : begin
    out = 1'b0;
    if(!rst)
        ns = so;
    else
```

```

ns = isolation;
end

default : begin
    ns = cs;
    out = 1'b0;
end

endcase
end

//assign out = (cs==s12) ? 1'b1 : 1'b0;

`ifdef tanvitha
assert property(
    @(posedge clk) (cs == s12) |-> (out == 1)); //1

assert property(
    @(posedge clk) (cs == s3 && in == 1) |-> (ns == so)); //2

assert property(
    @(posedge clk) (cs == s2_c && in == 0) |-> (ns == s3)); //3

assert property(
    @(posedge clk) (cs == s6 && in == 1) |-> (ns == s6_c)); //4

assert property(
    @(posedge clk) (cs == s3 && in == 0) |-> (ns == s3_c)); //5

assert property(
    @(posedge clk) (cs == s4_c && in == 0) |-> (ns == s5)); //6

```

```

assert property(
  @(posedge clk) (cs == s4_c && in == 1) |-> (ns == s4)); //7

assert property(
  @(posedge clk) (cs == s3_c && in == 0) |-> (ns == s4)); //8

assert property(
  @(posedge clk) (cs == deadlock && !($isunknown(in)) |-> (ns == deadlock))); //9

assert property(
  @(posedge clk) (cs == s7_c && in == 1) |-> (ns == s8)); //10

assert property(
  @(posedge clk) (cs == isolation && !($isunknown(in)) |-> (ns == isolation))); //11

assert property(
  @(posedge clk) (cs == s5_c && in == 1) |-> (ns == s6)); //12

assert property(
  @(posedge clk) (cs == s9_c && in == 1) |-> (ns == s10)); //13

assert property(
  @(posedge clk) (cs == s11 && in == 0) |-> (ns == s11_c)); //14

assert property(
  @(posedge clk) (cs == s8_c && in == 0) |-> (ns == s9)); //15
`endif

```

Endmodule

Testbench code:

```
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b1;
```

@(negedge clk) in = 1'b0;
@(negedge clk) in = 1'b0;
@(negedge clk) in = 1'b1;
@(negedge clk) in = 1'b1;
@(negedge clk) in = 1'b0;
@(negedge clk) in = 1'b0;
@(negedge clk) in = 1'b0;

//next

```
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b1;  
@(negedge clk) rst = 1'b0;
```

```
@(negedge clk) rst = 1'b1;  
//next  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b1;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b0;  
@(negedge clk) in = 1'b0;  
#2000;  
$finish();  
end
```

```
endmodule
```

TCL FILES:

VC_AEP.tcl:

```
set_fml_appmode AEP

set_fml_var fml_aep_unique_name true

read_file -top seq_detect -format sverilog -aep all -vcs {SEQ_detect.sv}

# we ask the tool to drive the clock and resets
create_clock clk -period 100
create_reset rst -sense low
# Ask VC Formal to bring the design out of reset
sim_run -stable
sim_save_reset
```

VC_COV.tcl:

```
set_fml_appmode COV
#set_fml_var fml_aep_unique_name true
set design seq_detect
read_file -top $design -format sverilog -sva -vcs {SEQ_detect.sv} -cov all

# we ask the tool to drive the clock and resets
create_clock clk -period 100
create_reset rst -low

# Ask VC Formal to bring the design out of reset
```

```
sim_run -stable  
sim_save_reset
```

VC_FPV.tcl:

```
set_fml_appmode FPV  
  
set design seq_detect  
read_file -top $design -format sverilog -sva \  
-vcs {SEQ_detect.sv +define+tanvitha}  
  
# we ask the tool to drive the clock and resets  
create_clock clk -period 100  
create_reset rst -low  
  
# Ask VC Formal to bring the design out of reset  
sim_run -stable  
sim_save_reset
```

VC_FXP.tcl:

```
set_fml_appmode FXP  
#set_fml_var fml_aep_unique_name true  
read_file -top seq_detect -format sverilog -sva -vcs {SEQ_detect.sv}  
set_fml_var fxp_compute_rootcause_auto true  
# we ask the tool to drive the clock and resets  
create_clock clk -period 100  
create_reset rst -low
```

```
# Ask VC Formal to bring the design out of reset
```

```
sim_run -stable
```

```
sim_save_reset
```

```
fxp_generate
```

```
set_fml_var fxp_compute_rootcause_auto true
```