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NPTEL

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Courses » VLSI Design Verification and test

Announcements

Course

Ask a Question

Progress

Mentor

Unit 10 - CTL

Model checking Algorithms and Introduction to Binary Decision Diagrams

Course outline

How to access the portal ?

Introduction and Overview of VLSI Design

Scheduling in High-Level Synthesis

Resource Sharing and Binding in HLS

Logic Synthesis

Physical Design

Introduction to Verification Techniques

Syntax and semantics of CTL, Equivalences between CTL formulas and Introduction to Model Checking

CTL Model checking Algorithms and Introduction to Binary Decision Diagrams

☐ Model checking Algorithms

☐ Model checking Algorithms continued.

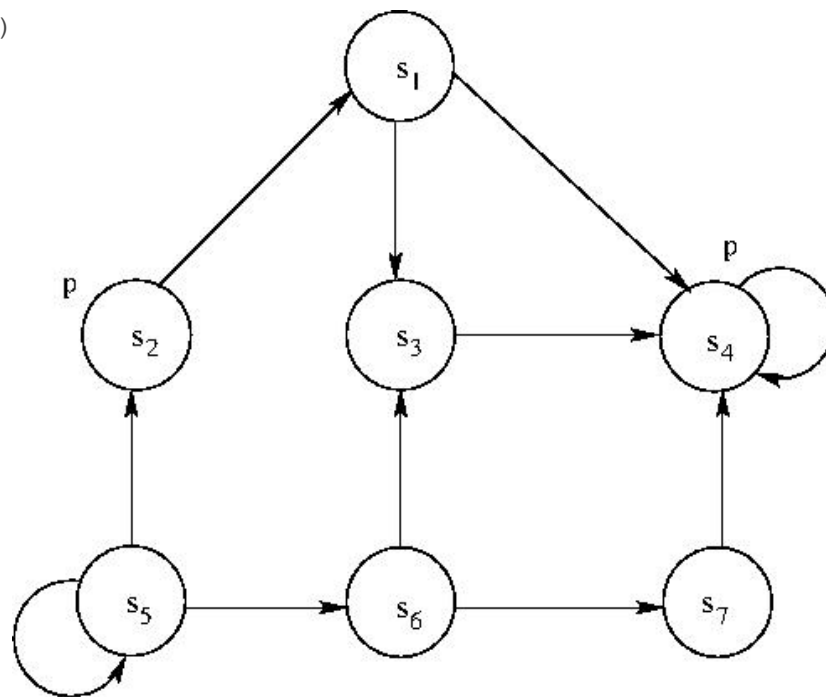
Week 7--Assignment

The due date for submitting this assignment has passed. **Due on 2016-09-11, 23:58 IST.**

Submitted assignment

1)

1 point



Model M

Consider the model M shown in the figure. Determine the set of states satisfying AXp using model checking algorithm, where p is an atomic proposition.

- ☐ s_3, s_4, s_7
- ☐ s_4, s_7, s_1
- ☐ s_1, s_3, s_7
- ☐ s_1, s_3, s_5, s_7

No, the answer is incorrect.

Score: 0

Accepted Answers:

s_3, s_4, s_7

2)

1 point

- ☐ Model checking with fairness
- ☐ Binary Decision Diagram: Introduction and Construction
- ☐ Quiz : Week 7-- Assignment

Binary Decision Diagram and Symbolic model checking

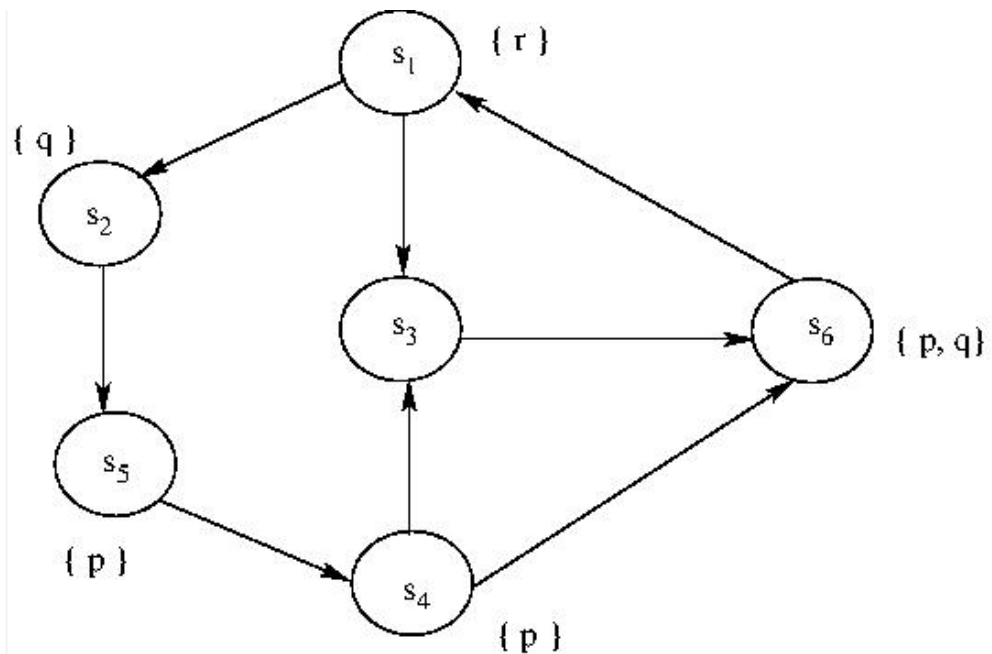
Introduction to Digital Testing

Fault Simulation and Testability Measures

Combinational Circuit Test Pattern Generation

Sequential Circuit Testing and Scan Chains

Built In Self Test (BIST)



Model M

Consider the model M shown in the figure. Determine the set of states satisfying $EG(p \rightarrow q)$ using model checking algorithm, where p, q and r are atomic propositions.

- ☐ s_1, s_2, s_3, s_6
- ☐ s_1, s_3, s_6
- ☐ s_3, s_6
- ☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

s_1, s_3, s_6

3) Consider the model M shown in question no.2. Determine the set of states satisfying $AG(p \rightarrow q)$ using model checking algorithm, where p, q and r are atomic propositions.

1 point

- ☐ s_1, s_2, s_3, s_6
- ☐ s_1, s_3, s_6
- ☐ s_3, s_6
- ☐ None of the above

No, the answer is incorrect.

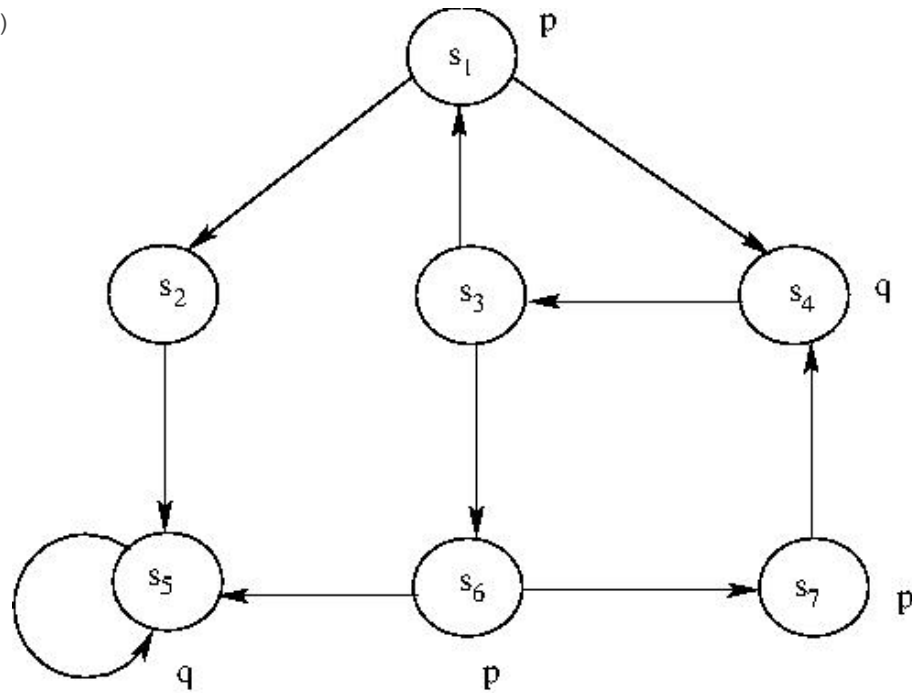
Score: 0

Accepted Answers:

None of the above

4)

1 point



Model M

Consider the model M shown in the figure. Determine the set of states satisfying $E(pUq)$ using model checking algorithm, where p and q are atomic propositions.

- ☐ s_1, s_4, s_5, s_6, s_7
- ☐ s_3, s_4, s_5
- ☐ s_1, s_4, s_5, s_2
- ☐ None of the above

No, the answer is incorrect.

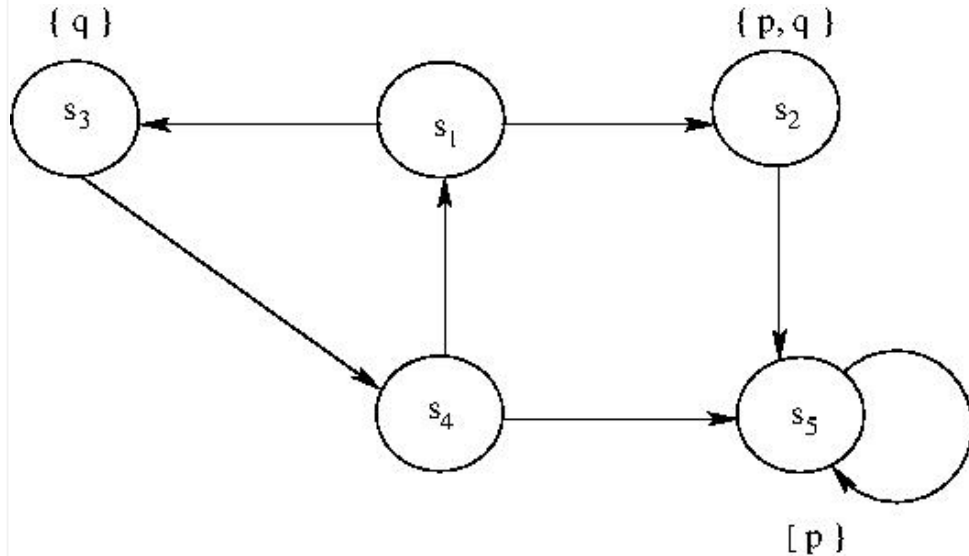
Score: 0

Accepted Answers:

s_1, s_4, s_5, s_6, s_7

5)

1 point



Model M

Consider the model M shown in the figure. Determine the set of states satisfying $AF(\neg p \wedge q)$ using model checking algorithm, where p and q are atomic propositions.

- ☐ s_3, s_4
- ☐ s_3, s_4, s_1
- ☐ s_3

☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

S₃

6) Consider the model M shown in question no. 5. Determine the set of states satisfying $EX(\neg p \wedge q)$ using model checking algorithm, where p and q are atomic propositions. **1 point**

- ☐ S₃, S₄
- ☐ S₃, S₄, S₁
- ☐ S₁, S₃
- ☐ S₁

No, the answer is incorrect.

Score: 0

Accepted Answers:

S₁

7) Binary Decision Diagram (BDD) construction of a Boolean expression is based on _____. **1 point**

- ☐ Shannon expansion
- ☐ SOP representation
- ☐ POS representation
- ☐ All of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Shannon expansion

8) Find the number of terminal nodes of a Boolean function $f(a,b,c)=a'b+abc+b'c'$ in BDT and BDD representation. **1 point**

- ☐ BDT=5, BDD=5
- ☐ BDT=8, BDD=2
- ☐ BDT=2, BDD=8
- ☐ BDT=8, BDD=8

No, the answer is incorrect.

Score: 0

Accepted Answers:

BDT=8, BDD=2

Previous Page

End



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