

Unit 12 - Week 10

Course outline

How to access the portal

Pre-Course

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

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Week 8

Week 9

Week 10

● Efficient Solution to Retiming & Introduction to Logic Synthesis

● Binary Decision Diagrams

○ Quiz : Assignment 10

○ Feedback Form

Week 11

Week 12

Lecture Slides

Assignment 10

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-09, 23:59 IST.

- 1) The set of inequalities formulated in the Retiming problem with N gates can be solved in a time that always grows as a polynomial function of N 1 point
- TRUE
 FALSE

No, the answer is incorrect.
Score: 0

Accepted Answers:
TRUE

- 2) While solving the Retiming problem, there will always be a solution in which the retiming value of any node can be set to zero 1 point
- TRUE
 FALSE

No, the answer is incorrect.
Score: 0

Accepted Answers:
TRUE

- 3) Which of the following statements are true for the cofactor of a function f with respect to any literal x ? 1 point
- The cofactor will always contain at least one term having x
 The cofactor will always contain at least one term having x'
 The cofactor will never contain any term having x or x' in it
 The cofactor is always equal to the ON-set of function f

No, the answer is incorrect.
Score: 0

Accepted Answers:
The cofactor will never contain any term having x or x' in it

- 4) The number of rows in a truth table of a function with N boolean variables is quadratic in N 1 point
- TRUE
 FALSE

No, the answer is incorrect.
Score: 0

Accepted Answers:
FALSE

- 5) If a node associated with function f has a label v in a BDD, which of the following are true: 1 point
- Its LOW child represents the co-factor of f with respect to v
 Its HIGH child represents the co-factor of f with respect to v
 Its LOW child represents the co-factor of f with respect to v'
 Its HIGH child represents the co-factor of f with respect to v'

No, the answer is incorrect.
Score: 0

Accepted Answers:
Its HIGH child represents the co-factor of f with respect to v
Its LOW child represents the co-factor of f with respect to v'

- 6) If the indices associated with BDD nodes v , $LOW(v)$, and $HIGH(v)$, are X , Y , and Z respectively, then which of the following could be true? 1 point
- $X > Y$
 $Y > Z$
 $X < Y$
 $X < Z$

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $Y > Z$
 $X < Y$
 $X < Z$

- 7) Since ROBDD is a reduced form of BDD, it can never have exponential number of nodes in it 1 point
- TRUE
 FALSE

No, the answer is incorrect.
Score: 0

Accepted Answers:
FALSE

- 8) Under what circumstances would a node in an OBDD be considered redundant? 1 point
- If both its children point to the same node
 If it is the leaf
 If it is the root
 If there is another node in the OBDD with the same LOW and HIGH children

No, the answer is incorrect.
Score: 0

Accepted Answers:
If both its children point to the same node
If there is another node in the OBDD with the same LOW and HIGH children

- 9) The total number of nodes in an ROBDD is NOT dependent on the variable ordering 1 point
- TRUE
 FALSE

No, the answer is incorrect.
Score: 0

Accepted Answers:
FALSE

- 10) Given $(f = abc + bc' + ac)$. Which of the following represents the cofactor of function f with respect to literal a' ? 1 point
- bc'
 $abc + ac$
 ac
 a'

No, the answer is incorrect.
Score: 0

Accepted Answers:
 bc'