Assignment 5

Due on 2019-09-04, 23:59 IST.

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

1. Which of the following is true about the Constant Folding transformation?
   - It could lead to a smaller reduction circuit.
   - It could lead to a circuit with lower cycle count.
   - It could lead to a smaller reduction circuit and lower cycle count.
   - It is possible that the resulting circuit is not smaller.
   - The answer is incorrect.
   - Accepted Answers: Y, N

2. The Constant Propagation transformation may lead to opportunities for Constant Folding and Dead Code Elimination.
   - TRUE
   - FALSE
   - The answer is incorrect.
   - Accepted Answers: Y, N

3. The Strength Reduction transformation may sometimes result in a larger CDFG.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

4. It is possible to apply the Strength Reduction transformation to reduce the statement "y = x + 1", using what means?
   - Miscellaneous
   - Zero adder and Zero multiply
   - Zero adder and Zero multiply, Two adders and Zero multiply
   - Zero adder and Zero multiply, Two adders and Zero multiply, Strength Reduction does not apply to this statement
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

5. The Common Subexpression Elimination transformation in high-level synthesis always results in reduced cycle count.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

6. The Common Subexpression Elimination transformation results in reduced cycle count in the CDFG.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

7. The Long Invariant Code Motion transformation could lead to lower cycle count.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

8. A block in a HDL that represents a memory file operation:
   - Has an address input
   - Has a data input
   - Has a data output
   - Has an address output
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

9. A block in a HDL that represents a Memory file operation:
   - Has an address input
   - Has a data input
   - Has a data output
   - Has an address output
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

10. During high level synthesis transformations, Constant folding may lead to opportunities for dead code elimination.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

11. Constant folding transformation always results in the area being the same or lesser, independent of the target hardware resources.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

12. Brings all of the following consists of a complete expression; together on one side (left or right) of the expression is a heuristic typically used during:
   - Dead code elimination
   - Common propagation
   - Common folding
   - Functional folding
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

13. The Dead Code Elimination transformation may sometimes result in a larger CDFG.
   - TRUE
   - FALSE
   - No, the answer is incorrect.
   - Accepted Answers: Y, N

14. ...