WEEK 4 ASSIGNMENT

The due date for submitting this assignment has passed. Due on 2016-08-22, 23:58 IST.

Submitted assignment

1) Which of the following statement(s) is (are) true about moore style FSM?
   - the output is a function of the present state.  [ ]
   - the output is a function of the present state and inputs.  [ ]
   - the output is a function of the next state.  [ ]
   - the output is a function of the next state and inputs.  [ ]

   **No, the answer is incorrect.**
   **Score: 0**
   **Accepted Answers:**
   the output is a function of the present state.

2) Which of the following statement(s) is(are) incorrect about Boolean expressions?
   - All Boolean expressions can be implemented as a two-level logic function.  [ ]
   - All Boolean expressions can be implemented as a three-level logic function.  [ ]
   - All Boolean expressions can be implemented as a four-level logic function.  [ ]
   - None of the above  [ ]

   **No, the answer is incorrect.**
   **Score: 0**
   **Accepted Answers:**
   None of the above

3) The ON-set of a Boolean function is composed of the following min-terms: 1, 2, 6, 7, 9, 10. The don’t cares are: 0, 3, 11, 13. The cardinality of the exhaustive set of prime implicants is:
   - 5  [ ]
   - 6  [ ]
   - 4  [ ]
   - 7  [ ]

   **No, the answer is incorrect.**
   **Score: 0**
   **Accepted Answers:**
   6

4) The minimum number of essential prime implicants for the Boolean function in Q3 are:
   - 4  [ ]
   - 3  [ ]

   **2 points**
For the ESPRESSO algorithm, which of the following statement(s) is(are) true:

- The expand step produces a cover over prime implicants.
- The irredundant step produces a cover over essential prime implicants.
- The reduce step retains a cover over all prime implicants.
- None of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:
- The expand step produces a cover over prime implicants.
- The irredundant step produces a cover over essential prime implicants.
- The reduce step retains a cover over all prime implicants.

2) For the given circuit diagram with the initial partition as shown through the cut line, obtain a netlist. With this netlist as an input, a correct enumeration of the vertices on each side of the partition after the second iteration of the inner repeat loop in the Kernighan-Lin (KL) algorithm is:

- Partition-1: a, e, f, g. Partition-2: b, c, d, h
- Partition-1: a, c, e, g. Partition-2: b, d, f, h
- Partition-1: a, c, g, h. Partition-2: b, d, e, f
- Partition-1: c, d, f, g. Partition-2: a, b, e, h

No, the answer is incorrect.

Score: 0

Accepted Answers:
- Partition-1: a, c, e, g. Partition-2: b, d, f, h

7) For Q6, the absolute gain (g) at the end of the third iteration is:

- -2
- 2
- -1
- 1

No, the answer is incorrect.

Score: 0

Accepted Answers:
8) For Q6, the final partition and cut-size is:

- Partition-1: a, b, c, h. Partition-2: d, f, g, e and cut-size: 2
- Partition-1: a, f, c, e. Partition-2: d, b, g, h and cut-size: 1
- Partition-1: a, b, c, e. Partition-2: d, f, g, h and cut-size: 3
- Partition-1: a, b, g, h. Partition-2: d, f, c, e and cut-size: 4

No, the answer is incorrect.
Score: 0

Accepted Answers:
Partition-1: a, b, c, e. Partition-2: d, f, g, h and cut-size: 3