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Assignment 6

The due date for submitting this assignment has passed.

Due on 2020-10-28, 23:59 IST.

Assignment submitted on 2020-10-27, 11:01 IST

1) State yes or no: If a specification predicate is in Conjunctive Normal Form (CNF) then, a major clause can be made active by making all other clauses true. ***1 point***

- (•) Yes.
- ( ) No.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Yes.

2) Where do logical predicates occur in finite state machines? ***1 point***

- ( ) They occur in the specification of finite state machines.
- ( ) They occur at decision points in finite state machines.
- (•) They occur as guards in transitions of finite state machines.
- ( ) They occur in the nodes of finite state machines.

Yes, the answer is correct.
Score: 1
Accepted Answers:
They occur as guards in transitions of finite state machines.

Answer the following questions for the method **`twoPred()`** below. The method is called with two input parameters **`x`** and **`y`**. The variable **`z`** is internal to the method.

```
public String twoPred (int x, int y)
```

```
{
        boolean z;
        if (x < y)
                z = true;
        else
                z = false;
        if (z && x+y == 10)
                return "A";
        else
                return "B";
}
```

3) The second predicate contains the variable **z** and can be re-written in terms of **x** and **y**. Which of the following represents the re-written second predicate? ***1 point***

- `(True && (x+y == 10).`
- `((x<y) && (x+y == 10).`

Yes, the answer is correct.
Score: 1
Accepted Answers:
`((x<y) && (x+y == 10).`

4) State yes or no: Predicate coverage for the first predicate **will not** ensure predicate coverage for the second predicate. ***1 point***

- Yes.
- No.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Yes.

5) How many test cases will be needed for clause coverage for the second predicate if we explicitly count the true and false values for each clause? ***1 point***

- Two test cases.
- Four test cases.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Four test cases.

6) State true or false: The set of test cases $\{(x = 5, y = 3), (x = 4, y = 6), (x = 5, y = 6)\}$ will satisfy clause coverage for the second predicate. ***1 point***

- True.
- False.

Yes, the answer is correct.
Score: 1
Accepted Answers:
True.

7) State yes or no: The set of test cases $\{(x = 5, y = 3), (x = 4, y = 6), (x = 5, y = 6)\}$ will also satisfy predicate coverage for the ***1 point***

first and second predicates.

- (•) Yes.
- ( ) No.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Yes.

8) How many test cases are needed for satisfying RACC for all the clauses for the second predicate? ***1 point***

- ( ) Two test cases.
- (•) Three test cases.
- ( ) Four test cases.
- ( ) Six test cases.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Three test cases.

9) State true or false: The set of test cases $\{(x = 4, y = 6), (x = 6, y = 4), (x = 4, y = 5)\}$ satisfy RACC for the second predicate. ***1 point***

- (•) True.
- ( ) False.

Yes, the answer is correct.
Score: 1
Accepted Answers:
True.

10) State true or false: RICC has no feasible pairs of test cases for the second predicate to be true. ***1 point***

- (•) True.
- ( ) False.

Yes, the answer is correct.
Score: 1
Accepted Answers:
True.