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Week 2: Assignment 2

The due date for submitting this assignment has passed.

Due on 2021-08-18, 23:59 IST.

Assignment submitted on 2021-08-16, 19:41 IST

1) Which of the following best represents an edge $e = (u, v)$ being reachable in a graph? ***1 point***

- Edge $e = (u, v)$ is reachable if there is a path from one of the initial vertices to the vertex u.
- Edge $e = (u, v)$ is reachable if there is a path from one of the initial vertices to the vertex u and then to the vertex v via the edge e.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Edge $e = (u, v)$ is reachable if there is a path from one of the initial vertices to the vertex u and then to the vertex v via the edge e.

2) A path that begins in one of the initial vertices and ends in a final vertex is called as ***1 point***
. . . .

- A feasible test path.
- An infeasible test path.
- A test path that tours the final vertex.
- A test path.

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

A test path.

3) Different test cases can execute one single test path. ***1 point***

- (●) True
- ( ) False

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

4) A structural coverage criterion on graph is described by which of the following terms? ***1 point***

- (●) It is defined on a graph model of the software artifact to be tested, purely in terms of vertices and edges.
- ( ) It is defined on a graph model of the software artifact to be tested by using as many details of the artifact that are available in the graph.

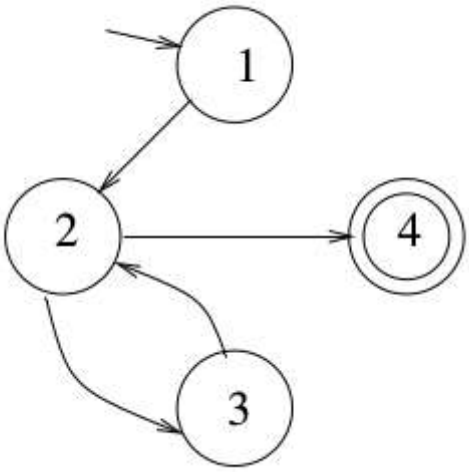
Yes, the answer is correct.
Score: 1
Accepted Answers:
It is defined on a graph model of the software artifact to be tested, purely in terms of vertices and edges.

5) How are test requirements defined and met in graphs-based structural coverage criteria? ***1 point***

- ( ) Test requirements are defined as properties of test paths and they are met by using the same test paths.
- (●) Test requirements are defined as properties of test paths and they are met by using test paths that satisfy each test requirement.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Test requirements are defined as properties of test paths and they are met by using test paths that satisfy each test requirement.

For the next five questions, consider the given graph. The graph has four vertices, vertex 1 is the initial vertex (marked by an incoming arrow), vertex 4 is the final vertex (marked by two circles) and the edges are marked in the graph. The following questions are on structural coverage criteria on this graph.



6) There are test paths that achieve node coverage but not edge coverage. ***1 point***

- True
- False

Yes, the answer is correct.
Score: 1

Accepted Answers:
False

7) Which of the following test paths achieve edge coverage? ***1 point***

- Test path [1, 2, 3, 2, 4].
- Test paths [1, 2, 4] and [1, 2, 3, 2].

Yes, the answer is correct.
Score: 1

Accepted Answers:
Test path [1, 2, 3, 2, 4].

8) State yes or no: The edge pair [3, 2, 3] is toured by the test path [1, 2, 3, 2, 4]. ***1 point***

- Yes
- No

Yes, the answer is correct.
Score: 1

Accepted Answers:
No

9) The test paths {[1, 2, 4], [1, 2, 3, 2, 3, 2, 4]} achieves which of the following coverage criteria? ***1 point***

- Node coverage only.
- Node and edge coverage only.
- Edge pair coverage.
- Edge coverage only.

Yes, the answer is correct.
Score: 1

Accepted Answers:

Edge pair coverage.

10) State yes or no: The test path [1, 2, 3, 2, 4] achieves edge coverage. ***1 point***

- (•) Yes
- ( ) No

Yes, the answer is correct.
Score: 1

Accepted Answers:
Yes