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Assignment 4

The due date for submitting this assignment has passed.

Due on 2020-10-14, 23:59 IST.

Assignment submitted on 2020-10-11, 23:10 IST

1) If method A uses a variable v shared with method B, where A writes to v and B reads from v, then, it is an example of which kind of coupling interface listed below? ***1 point***

- External device coupling.
- Parameter coupling.
- Interface coupling.
- Shared data coupling.

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

2) Choose an answer from the options below: A node in a callee function that defines a variable x and has a def-clear path from the node through a call site to a caller function is referred to as . . . . . ***1 point***

- Last-def of x.
- Def of x.
- First-use of x.
- Use of x.

Yes, the answer is correct.
Score: 1
Accepted Answers:
Last-def of x.

3) Which of the following best defines a test driver? ***1 point***

- It is a skeletal or special purpose implementation of a software module, used to develop or test a component that calls it.
- It is a software component that replaces a component that takes care of the control and/or the calling of a software component.

Yes, the answer is correct.
Score: 1
Accepted Answers:
It is a software component that replaces a component that takes care of the control and/or the calling of a software component.

4) State true or false: Both top-down and bottom-up integration testing work well with a hierarchical design. ***1 point***

- True.
- False.

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

5) State true or false: Control flow graphs are finite state machines representing code. ***1 point***

- True.
- False.

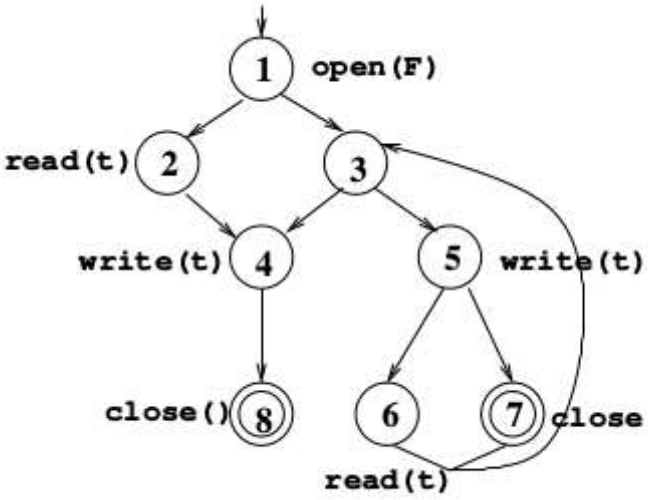
Yes, the answer is correct.
Score: 1
Accepted Answers:
False.

6) Which of the following best describes pre-conditions in finite state machines? ***1 point***

- They are conditions that must be true for transitions to be taken.
- They represent sequencing constraints that describe the order in which methods need to be called.

Yes, the answer is correct.
Score: 1
Accepted Answers:
They are conditions that must be true for transitions to be taken.

Consider the graph representing method calls for a class **`FileADT`** given below. The methods used are **`open(F)`**, **`read(t)`**, **`write(t)`** and **`close()`**, where **`F`** is a file and **`t`** is a text pattern.



Answer the following questions related to sequencing constraints on the graph for the given methods.

7) Consider a sequencing constraint given by “Each time a file is open, a read or write should be called before it is closed”. Does the given graph satisfy this sequencing constraint? ***1 point***

- Yes.
- No.

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

8) Consider a sequencing constraint given by “A write should be executed before every close”. Does the given graph satisfy this sequencing constraint? ***1 point***

- Yes.
- No.

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

9) Which of the following statements are correct with respect to the sequencing constraints on the methods given by the above graph? ***1 point***

- The paths [1, 3, 4, 8] and [1, 3, 5, 7] violate the sequencing constraint “A read should be executed before every write, to a file.”.
- Only the path [1, 3, 4, 8] violates the sequencing constraint “A read should be executed before every write, to a file”.

Yes, the answer is correct.
Score: 1
Accepted Answers:
The paths [1, 3, 4, 8] and [1, 3, 5, 7] violate the sequencing constraint “A read should be executed before every write, to a file.”.

10) State true or false: The given graph satisfies the sequencing con- straint “Every path from open to close has a write followed by a read, in order”. ***1 point***

- ○ True.
- ◉ False.

Yes, the answer is correct.
Score: 1

Accepted Answers:
False.