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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Software Testing (course)

Course outline

How does an NPTEL online course work? ()

Pre-requisite Assignment ()

Week 1 ()

Week 2 ()

Week 3 ()

Week 4 ()

Week 5 ()

Week 6 ()

Week 7 ()

Week 8 ()

Week 9 ()

● Mutation testing (unit? unit=73&lesson=74)

Week 9 : Assignment 9

The due date for submitting this assignment has passed.

Due on 2022-09-28, 23:59 IST.

Assignment submitted on 2022-09-28, 21:02 IST

1) How is overloading different from overriding in object oriented programming? **1 point**

- ☒ Overloading occurs between two methods in the same class and overriding occurs between methods in a class and one of its descendants.
- ☐ Overloading occurs between a method in a class and one of its descendants and overriding occurs between two methods in the same class.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Overloading occurs between two methods in the same class and overriding occurs between methods in a class and one of its descendants.

2) Which of the following represents use of **super()** keyword? **1 point**

- ☒ Sub-classes can explicitly use their parents variables and methods using the keyword **super()**.
- ☐ Sub-classes can use their own variables and methods and not the inherited ones using the keyword **super()**.

Yes, the answer is correct.

Score: 1

Accepted Answers:

*Sub-classes can explicitly use their parents variables and methods using the keyword **super()**.*

3) While applying the mutation operator that deletes a method call, how is the value to be returned by the deleted method passed back to the caller method? **1 point**

● Mutation Testing - Mutation for integration (unit? unit=73&lesson=75)

● Mutation testing : Grammars and inputs (unit? unit=73&lesson=76)

● Software Testing Course: Summary after Week 9 (unit? unit=73&lesson=77)

● Practice: Week 9 : Assignment 9 (Non Graded) (assessment? name=119)

● Quiz: Week 9 : Assignment 9 (assessment? name=144)

○ Week 9 Feedback Form: Software Testing (unit? unit=73&lesson=132)

Week 10 ()

Week 11 ()

Week 12 ()

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- ☐ The method itself is deleted, so the call should also be deleted in the caller method.
- ☐ The value returned by the deleted method is replaced with a suitable statement in the caller.
- ☐ A message is sent to the caller indicating that there is no value to be returned as the method is deleted.
- ☒ The value returned by the deleted method is replaced with a fixed, constant value.

Yes, the answer is correct.

Score: 1

Accepted Answers:

The value returned by the deleted method is replaced with a fixed, constant value.

4) When mutation testing is applied as a black-box testing technique to mutate the inputs, which of the following statements hold true? **1 point**

- ☐ Both the inputs and the program which is accepting the inputs have to be mutated with one mutation operator.
- ☒ Only the inputs are mutated, the program which is accepting the inputs remains the same.
- ☐ The inputs are not mutated, the program is mutated at a random statement.
- ☐ The inputs are not mutated, the program is mutated at one of the statements that process the inputs.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Only the inputs are mutated, the program which is accepting the inputs remains the same.

5) When we change a method call **is-divisible(a,b)** to **is-divisible(b,a)** is an example of which of the mutation operators listed below? **1 point**

- ☐ Integration parameter variable replacement.
- ☒ Integration parameter variable exchange.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Integration parameter variable exchange.

6) State yes or no: The programming language Java does not support multiple class inheritance and hence each class only has a single parent. **1 point**

- ☒ Yes.
- ☐ No.

No, the answer is incorrect.

Score: 0

Accepted Answers:

No.

7) Which of the following integration mutation operator represents changing the order of arguments in method invocations to be the same as that of another overloading method, if one exists? **1 point**

- ☐ Overloading method change.
- ☐ Argument number change.

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- ☒ Argument order change.
☐ Reference type change.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Argument order change.

8) State true or false: While testing inputs using mutation testing, the inputs always have to adhere to their underlying syntax. **1 point**

- ☒ True.
☐ False.

No, the answer is incorrect.

Score: 0

Accepted Answers:

False.

9) Towards ensuring that mutation testing subsumes edge coverage, which of the following mutation operators are used? **1 point**

- ☒ Relational operator replacement.
☐ Statement replacement.
☐ Logical operator replacement.
☐ Condition statement replacement.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Relational operator replacement.

10) Which of the statements below are true with reference to mutation testing subsuming all-defs coverage? **1 point**

- ☒ We need to consider strong mutation to be applied to the statements that contain variable definitions.
☐ Both weak and strong mutation on the statements that contain variable definitions will work.

Yes, the answer is correct.

Score: 1

Accepted Answers:

We need to consider strong mutation to be applied to the statements that contain variable definitions.