

Unit 7 - Week 5

Course outline

How to access the portal

Pre-requisite Assignment

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☐ Assignment 4: Graph Coverage Criteria

☐ Logic: Basics Needed for Software Testing

☐ Logic: Coverage Criteria

☐ Coverage Criteria, Contd.

☐ Logic Coverage Criteria

☐ Feedback for week 5

☒ Quiz : Assignment 5

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Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-04, 23:59 IST.

Consider the propositional logic formula $p = \neg q \vee r$. Answer the following questions related to p .

1) Will the assignment $q = \text{true}$, $r = \text{false}$ make p true?

1 point

- ☐ Yes
- ☐ No

No, the answer is incorrect.

Score: 0

Accepted Answers:

No

2) With reference to the truth table for p , how many different assignments for q and r are there?

1 point

- ☐ One
- ☐ Two
- ☐ Three
- ☐ Four

No, the answer is incorrect.

Score: 0

Accepted Answers:

Four

3) How many different assignments for q and r can make p true?

1 point

- ☐ One
- ☐ Two
- ☐ Three
- ☐ Four

No, the answer is incorrect.

Score: 0

Accepted Answers:

Three

4) Is p a satisfiable formula?

1 point

- ☐ Yes
- ☐ No

No, the answer is incorrect.

Score: 0

Accepted Answers:

Yes

Consider the predicate $p = a \wedge b$. Answer the following questions related to logic coverage criteria over p .
Truth table for p , with row numbers are given below

No.	a	b	p
1	T	T	T
2	T	F	F
3	F	T	F
4	F	F	F

5) Which of the following represents p_a , conditions under which clause a determines p ?

1 point

- ☐
- $p_a = a$
- ☐
- $p_a = b$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$p_a = b$

6) Which of the following represents p_b , conditions under which clause b determines p ?

1 point

- ☐
- $p_b = a$
- ☐
- $p_b = b$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$p_b = a$

7) With reference to the truth table row numbers above, GACC pair(s) for clause a is which of the following?

1 point

- ☐ Rows (1,3) and (1,4)
- ☐ Row (1,3) only
- ☐ Rows (1,2) and (1,3)
- ☐ Row (1,2) only

No, the answer is incorrect.

Score: 0

Accepted Answers:

Row (1,3) only

8) With reference to the truth table row numbers above, GACC pair(s) for clause b is which of the following?

1 point

- ☐ Rows (1,3) and (1,4)
- ☐ Row (1,3) only
- ☐ Rows (1,2) and (1,3)
- ☐ Row (1,2) only

No, the answer is incorrect.

Score: 0

Accepted Answers:

Row (1,2) only

9) State true or false: GACC pairs for clauses a and b are the same as CACC pairs.

1 point

- ☐ True
- ☐ False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

10)State true or false: RACC pairs for clauses a and b are the same as CACC pairs.

1 point

- ☐ True
- ☐ False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

Unit 9 - Week 7

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Week 6 - Assignment Solving

Functional Testing

Input Space Partitioning

Input Space Partitioning: Coverage Criteria

Input Space Partitioning Coverage Criteria: Example

Feedback for week 7

Quiz : Assignment 7

Week 8

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Assignment 7

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-09-18, 23:59 IST.

1) Which of the following is a list of functional testing techniques?

1 point

- ☐ Equivalence partitioning, usability testing, decision coverage
- ☐ Equivalence partitioning, performance testing, usability testing
- ☐ Equivalence partitioning, decision tables, random testing
- ☐ Equivalence partitioning, decision coverage, loop coverage

No, the answer is incorrect.
Score: 0

Accepted Answers:
Equivalence partitioning, decision tables, random testing

2) Which of the following is true about equivalence partitioning tests?

1 point

- ☐ Tests have to be disjoint and span the entire input domain
- ☐ Tests have to be disjoint, need not span the input domain
- ☐ Tests need not be disjoint, but need to span the input domain
- ☐ Tests have to be from different equivalence classes

No, the answer is incorrect.
Score: 0

Accepted Answers:
Tests have to be disjoint and span the entire input domain

3) If the program under test has n parameters q_1, q_2, \dots, q_n , and each parameter q_i has B_i blocks, then, how many values will be there in a test suite for Each Choice Coverage (ECC)?

1 point

- ☐ Atleast $\prod_{i=1}^n B_i, B_i$ values
- ☐ Atleast n values
- ☐ Atleast $Max_{i=1}^n B_i$ values
- ☐ Atleast $\sum_{i=1}^n B_i$ values

No, the answer is incorrect.
Score: 0

Accepted Answers:
Atleast $Max_{i=1}^n B_i$ values

4) Which of the criteria, in comparison with the other, is believed to be more useful for testing based on input space partitioning?

1 point

- ☐ Pair-wise coverage is more useful than base choice coverage
- ☐ T-wise coverage is more useful than pair-wise coverage
- ☐ Base choice coverage is more useful than T-wise coverage
- ☐ All combinations coverage is more useful than T-wise coverage

No, the answer is incorrect.
Score: 0

Accepted Answers:
Base choice coverage is more useful than T-wise coverage

5) Which of the following is a correct order of subsumption among coverage criteria for input space partitioning? In the options below, read \rightarrow as "subsumes"

1 point

- ☐ T-wise coverage \rightarrow base choice coverage
- ☐ T-wise coverage \rightarrow all combinations coverage
- ☐ Pair-wise coverage \rightarrow base choice coverage
- ☐ Pair-wise coverage \rightarrow each choice coverage

No, the answer is incorrect.
Score: 0

Accepted Answers:
Pair-wise coverage \rightarrow each choice coverage

For the next five questions, consider a function called **NextDate** which takes as input a valid date in mm/dd/yyyy format and computes the date of the next day. For example, given 06/14/1996, the **NextDate** function will return 06/15/1996 and when given 02/28/2019, the **NextDate** function will return 03/01/2019. Answer the following questions regarding input space partitioning test cases for the **NextDate** function

6) What are the variables involved in the **NextDate** function input?

1 point

- ☐ Month, day and year
- ☐ Date containing month, day and year
- ☐ Today's date
- ☐ Range of dates

No, the answer is incorrect.
Score: 0

Accepted Answers:
Date containing month, day and year

7) Which of the following are valid partitions for day, as a part of the input to **NextDate** function?

1 point

- ☐ Only one partition: $1 \leq \text{day} \leq 31$
- ☐ Two partitions: (1) $\text{day} > 1$ and (2) $30 \leq \text{day} \leq 31$
- ☐ Three partitions: (1) $1 \leq \text{day} \leq 29$, (2) $\text{day} = 30$ and (3) $\text{day} = 31$
- ☐ Four partitions: (1) $1 \leq \text{day} \leq 28$, (2) $\text{day} = 29$, (3) $\text{day} = 30$ and (4) $\text{day} = 31$

No, the answer is incorrect.
Score: 0

Accepted Answers:
Four partitions: (1) $1 \leq \text{day} \leq 28$, (2) $\text{day} = 29$, (3) $\text{day} = 30$ and (4) $\text{day} = 31$

8) State true or false: The partition (1){month: month has 30 days}, (2){month: month has 31 days}, (3){month: month is February} is a valid partition for month as a part of input to **NextDate** function?

1 point

- ☐ True
- ☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

9) Which of the following represents valid partition for year as a part of input to **NextDate** function?

1 point

- ☐ Two partitions: Year is a common year, Year is a leap year
- ☐ Three partitions: Year is a common year, Year is a leap year, Year is 2000

No, the answer is incorrect.
Score: 0

Accepted Answers:
Three partitions: Year is a common year, Year is a leap year, Year is 2000

10)The test case 6/31/2012 for the **NextDate** function is a test case representing which category of functional testing?

1 point

- ☐ Equivalence partitioning
- ☐ Boundary value testing
- ☐ Invalid testing
- ☐ Value testing

No, the answer is incorrect.
Score: 0

Accepted Answers:
Boundary value testing

Unit 12 - Week 10

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Testing of web Applications and Web Services

Testing of web Applications and Web Services

Testing of web Applications and Web Services

Testing of Object-Oriented Applications

Testing of Object-Oriented Applications

Software testing : Feedback for week 10

Quiz : Assignment 10

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Assignment 10

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-09, 23:59 IST.

1) Controllability and observability for web software is considered to be low for which of the following reasons? **1 point**

- ☐ Web software is available for everyone who has internet
- ☐ Web software is split into server software and client software
- ☐ Web software is written using several different languages
- ☐ Inputs to web software are through HTML UI and server side information is hard to get access to

No, the answer is incorrect.
Score: 0

Accepted Answers:

Inputs to web software are through HTML UI and server side information is hard to get access to

2) State true or false: A static web page is usually created and stored as a HTML file and provides the same content to all viewers **1 point**

- ☐ True
- ☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:

True

3) In a graph model of a static web site, what do nodes and edges represent? **1 point**

- ☐ Nodes represent web pages, edges are HTML links
- ☐ Nodes represent tabs, edges are links between tabs
- ☐ Nodes represent static content, edges represent HTML links
- ☐ Nodes represent text and images, edges represent hyperlinks

No, the answer is incorrect.
Score: 0

Accepted Answers:

Nodes represent web pages, edges are HTML links

4) Which of the following refers to the web applications testing technique where inputs are created to violate some of the rules on their format? **1 point**

- ☐ Security testing
- ☐ Bypass testing
- ☐ Testing based on violation of user session data
- ☐ Random testing

No, the answer is incorrect.
Score: 0

Accepted Answers:

Bypass testing

5) For server side testing of web applications, software of which layer is typically useful? **1 point**

- ☐ User interface layer
- ☐ Data content layer
- ☐ Presentation layer
- ☐ Data storage layer

No, the answer is incorrect.
Score: 0

Accepted Answers:

Presentation layer

6) In dynamic web applications, which of the following are populated based on user inputs? **1 point**

- ☐ Atomic section
- ☐ Content variables
- ☐ JavaScript
- ☐ HTML files

No, the answer is incorrect.
Score: 0

Accepted Answers:

Content variables

7) In a yo-yo graph used for testing object-oriented applications, what do nodes and edges represent? **1 point**

- ☐ Nodes represent classes and edges represent class inheritance
- ☐ Nodes represent classes and edges represent levels of classes
- ☐ Nodes represent overridden methods and edges represent caller- callee relationships
- ☐ Nodes represent methods and edges represent method calls

No, the answer is incorrect.
Score: 0

Accepted Answers:

Nodes represent methods and edges represent method calls

8) What do the edges with dashed lines represent in a yo-yo graph? **1 point**

- ☐ Calls made from methods of classes in different levels
- ☐ Calls that cannot be made due to overriding
- ☐ Calls from a parent to inherited method.
- ☐ Actual calls made by an object that has actual type at that level

No, the answer is incorrect.
Score: 0

Accepted Answers:

Calls that cannot be made due to overriding

9) When state interactions of a descendant method are not consistent with those of its ancestor method, which of the following faults is said to occur? **1 point**

- ☐ State definition inconsistency anomaly
- ☐ State definition anomaly
- ☐ State visibility anomaly
- ☐ State defined incorrectly anomaly

No, the answer is incorrect.
Score: 0

Accepted Answers:

State definition anomaly

10) Which of the following coverage criteria for object-oriented integration testing ensures that every last definition of a coupling variable reaches its first use but does not consider inheritance and polymorphism? **1 point**

- ☐ All-coupling-sequences
- ☐ All-poly-classes
- ☐ All-coupling defs-uses
- ☐ All-poly-coupling defs-uses

No, the answer is incorrect.
Score: 0

Accepted Answers:

All-coupling defs-uses

Unit 13 - Week 11

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- ☐ Symbolic Testing
- ☐ Symbolic Testing 2
- ☐ DART: Directed Automated Random Testing
- ☐ DART: Directed Automated Random Testing - 2
- ☐ DART: Directed Automated Random Testing 3

☐ Quiz : Assignment 11

- ☐ Software testing : Week 11 Feedback

Week 12

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Assignment 11

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-16, 23:59 IST.

- 1) In symbolic execution, various execution paths of a program are represented using which of the following data structures below?

1 point
- ☐ A forest of paths

☐ A forest of trees

☐ A tree of executions

☐ A set of path constraints

No, the answer is incorrect.
Score: 0

Accepted Answers:
A tree of executions

- 2) State true or false:
Symbolic execution can be terminated if the program hits an error.

1 point
- ☐ True

☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

- 3) Which of the following lists disadvantages of symbolic testing?

1 point
- ☐ Path constraint cannot be solved by a constraint solver

☐ Program has an error

☐ Program has too many paths

☐ Program has many functions

No, the answer is incorrect.
Score: 0

Accepted Answers:
Path constraint cannot be solved by a constraint solver

- 4) Which of the following defines symbolic variables?

1 point
- ☐ Special symbols for program variables

☐ Memory addresses for program variables

☐ Temporary names for program variables

☐ Concrete values for program variables

No, the answer is incorrect.
Score: 0

Accepted Answers:
Memory addresses for program variables

- 5) State true or false:
DART algorithm, when run on a program, always terminates

1 point
- ☐ True

☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:
False

Consider the code fragment below. It is written in a generic programming language, doesn't represent a full executable piece of code.
Answer the following questions related to symbolic execution of the given code fragment.

```
0: int x, y;
1: if (x > y) {
2:     x = x + y;
3:     y = x - y;
4:     x = x - y;
5: if (x - y > 0)
6: assert(false);
}
```

- 6) What does the code fragment do?

1 point
- ☐ Tries to check if x is greater than y

☐ Tries to check if y is greater than x

☐ Swaps the values x and y

☐ Swaps the values of x and x-y

No, the answer is incorrect.
Score: 0

Accepted Answers:
Swaps the values x and y

- 7) How many nodes will be there in the symbolic execution tree of this code fragment?

1 point
- ☐ 3 nodes

☐ 4 nodes

☐ 7 nodes

☐ 8 nodes

No, the answer is incorrect.
Score: 0

Accepted Answers:
8 nodes

- 8) What will be the path constraint at line 1 of the code fragment such that no further execution happens?

1 point
- ☐ x > y

☐ x <= y

No, the answer is incorrect.
Score: 0

Accepted Answers:
x <= y

- 9) What will be the path constraint to reach statement 6?

1 point
- ☐ x > y && y — x > 0

☐ x > y && y — x <=0

☐ x <=y

☐ x > y && x — y > 0

No, the answer is incorrect.
Score: 0

Accepted Answers:
x > y && y — x > 0

- 10)Is statement 6 reachable in the program fragment?

1 point
- ☐ Yes

☐ No

No, the answer is incorrect.
Score: 0

Accepted Answers:
No

Unit 14 - Week 12

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- ☐ Testing of Object-Oriented Applications
- ☐ Testing of Mobile Applications
- ☐ Non-Functional System Testing
- ☐ Regression Testing
- ☐ Software Testing: Summary at the End of the Course

☐ Quiz : Assignment 12

- ☐ Software testing : Week 12 Feedback

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Assignment 12

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-23, 23:59 IST.

1) Which of the following best defines a polymorphic call set?

1 point

- ☐ All the polymorphic methods
- ☐ All the methods that the designer wants to be polymorphic
- ☐ Set of polymorphic methods that can get executed in a class
- ☐ Set of methods that can potentially execute as result of a method call through a particular instance context

No, the answer is incorrect.
Score: 0

Accepted Answers:

Set of methods that can potentially execute as result of a method call through a particular instance context

2) Which of the following is a correct order of subsumption amongst cov- erage criteria for testing object-oriented applications? Read → below as "subsumes"

1 point

- ☐ All poly coupling defs and uses → All poly defs
- ☐ All poly coupling defs and uses → All poly classes

No, the answer is incorrect.
Score: 0

Accepted Answers:

All poly coupling defs and uses → All poly classes

3) Testing for mobile phones apps at middleware and device level is done using which of the following?

1 point

- ☐ Mobile phones themselves
- ☐ Application development environment
- ☐ Emulators that are custom-built
- ☐ Application within the phone

No, the answer is incorrect.
Score: 0

Accepted Answers:

Emulators that are custom-built

4) Which of the following is a list of quality attributes that are tested using techniques for non-functional testing?

1 point

- ☐ Interoperability, functionality, security
- ☐ Security, performance, reliability
- ☐ Functionality, usability, scalability
- ☐ Testability, performance, controllability

No, the answer is incorrect.
Score: 0

Accepted Answers:

Security, performance, reliability

5) State true or false:

Security testing involves testing for authorization and authentication policies also

1 point

- ☐ True
- ☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:

True

6) While re-using test cases for regression testing, which of the following is the best applicable method?

1 point

- ☐ Re-use all the test cases used for the original program
- ☐ Identify and eliminate obsolete test cases that were used for the original program
- ☐ Randomly select test cases for re-using
- ☐ Identify test cases based on a specified coverage criteria

No, the answer is incorrect.
Score: 0

Accepted Answers:

Identify and eliminate obsolete test cases that were used for the original program

7) State true or false:

Regression testing is a white-box testing technique

1 point

- ☐ True
- ☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:

False

8) While testing mobile applications, which of the following testing techniques addresses device fragmentation issues?

1 point

- ☐ Functional testing
- ☐ System testing
- ☐ Usability testing
- ☐ Security testing

No, the answer is incorrect.
Score: 0

Accepted Answers:

Usability testing

9) Testing of a mobile application for it going to a temporary suspend state upon receiving an incoming/outgoing call/SMS, cable removal for data transfer etc., constitutes which type of testing?

1 point

- ☐ Performance testing
- ☐ Interrupt testing
- ☐ Security testing
- ☐ Memory-related testing

No, the answer is incorrect.
Score: 0

Accepted Answers:

Interrupt testing

10)State true or false:

Documentation testing involves verifying trouble shooting guide with actual errors also

1 point

- ☐ True
- ☐ False

No, the answer is incorrect.
Score: 0

Accepted Answers:

True