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Question 1

Question Type: MultipleChoice

A calculator software is used to calculate the result for 5+6.

The user noticed that the result given is 6.

This is an example of;

Options:

A- Mistake

B- Fault

C- Error

D- Failure

Answer:

D

Explanation:

According to the ISTQB Glossary of Testing Terms, Version 4.0, 2018, page 18, a failure is "an event in which a component or system does not perform a required function within specified limits". In this case, the calculator software does not perform the required function of calculating the correct result for 5+6 within the specified limits of accuracy and precision. Therefore, this is an example of a failure.

The other options are incorrect because:

A mistake is "a human action that produces an incorrect result" (page 25). A mistake is not an event, but an action, and it may or may not lead to a failure. For example, a mistake could be a typo in the code, a wrong assumption in the design, or a misunderstanding of the requirement.

A fault is "a defect in a component or system that can cause the component or system to fail to perform its required function" (page 16). A fault is not an event, but a defect, and it may or may not cause a failure. For example, a fault could be a logical error in the code, a missing specification in the design, or a contradiction in the requirement.

An error is "the difference between a computed, observed, or measured value or condition and the true, specified, or theoretically correct value or condition" (page 15). An error is not an event, but a difference, and it may or may not result in a failure. For example, an error could be a rounding error in the calculation, a measurement error in the observation, or a deviation error in the condition.

Reference= ISTQB Glossary of Testing Terms, Version 4.0, 2018, pages 15-18, 25; ISTQB CTFL 4.0 - Sample Exam - Answers, Version 1.1, 2023, Question 96, page 34.

Question 2

Question Type: **MultipleChoice**

Which of the following statements describes regression testing?

I, Retesting of a fixed defect

II, Testing of an already tested program

III, Testing of new functionality in a program

IV, Regression testing applies only to functional testing

V Tests that do not nave to be repeatable, because They are only used once

Options:

A- II, IV, V

B- I, III, IV

C- II

D- I, IV

Answer:

C

Explanation:

Regression testing is the re-running of functional and non-functional tests to ensure that previously developed and tested software still performs as expected after a change1It does not involve retesting of a fixed defect, testing of new functionality, or applying only to functional testing.Tests that are used for regression testing should be repeatable, because they are used to verify the stability of the software after each change2Reference= ISTQB Certified Tester Foundation Level (CTFL) v4.0 Syllabus, Chapter 4, Section 4.2.2, Page 291; ISTQB Glossary of Testing Terms v4.0, Page 292

Question 3

Question Type: MultipleChoice

Which ONE of the following statements does NOT describe how testing contributes to higher quality?

Options:

A- Properly designed tests that pass reduce the level of risk in a system.

B- The testing of software demonstrates the absence of defects.

C- Software testing identifies defects, which can be used to improve development activities.

D- Performing a review of the requirement specifications before implementing the system can enhance quality.

Answer:

B

Explanation:

The testing of software does not demonstrate the absence of defects, but rather the presence of defects or the conformance of the software to the specified requirements1.Testing can never prove that the software is defect-free, as it is impossible to test all possible scenarios, inputs, outputs, and behaviors of the software2.Testing can only provide a level of confidence in the quality of the software, based on the coverage, effectiveness, and efficiency of the testing activities3.

The other options are correct because:

A)Properly designed tests that pass reduce the level of risk in a system, as they verify that the system meets the expected quality attributes and satisfies the needs and expectations of the users and clients4.Risk is the potential for loss or harm due to the occurrence of an undesirable event5.Testing can help to identify, analyze, prioritize, and mitigate the risks associated with the software product and project6.

C)Software testing identifies defects, which can be used to improve development activities, as they provide feedback on the quality of the software and the effectiveness of the development processes7. Defects are flaws or errors in the software that cause it to deviate from the expected or required results or behavior. Testing can help to detect, report, track, and resolve the defects, and prevent them from recurring in the future.

D) Performing a review of the requirement specifications before implementing the system can enhance quality, as it can ensure that the requirements are clear, complete, consistent, testable, and aligned with the needs and expectations of the users and clients. Requirements are the specifications of what the software should do and how it should do it. Testing can help to validate that the

requirements are met by the software, and verify that the software is implemented according to the requirements.

Reference=

1ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 10

2ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 11

3ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 12

4ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 13

5ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 97

6ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 98

7ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 14

[8] ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 15

[9] ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 16

[10] ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 17

[11] ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 18

[12] ISTQB Certified Tester Foundation Level Syllabus v4.0, 2023, p. 19

Question 4

Question Type: MultipleChoice

What is test oracle?

Options:

A- The source of lest objectives

B- The source for the actual results

C- The source of expected results

D- The source of input conditions

Answer:

C

Explanation:

A test oracle is a mechanism or principle that can be used to determine whether the observed behavior or output of a system under test is correct or not1.A test oracle can be based on various sources of expected results, such as specifications, user expectations, previous versions, comparable systems, etc2.Reference: ISTQB Certified Tester Foundation Level (CTFL) v4.0 Syllabus, Section 1.2.1, Page 91;

ISTQB Glossary of Testing Terms, Version 4.0, Page 332.

Question 5

Question Type: MultipleChoice

A program is used to control a manufacturing line (turn machines on and off. start and stop conveyer belts, add raw materials to the flow. etc.). Not all actions are possible at all times. For example, there are certain manufacturing stages that cannot be stopped - unless there is an emergency. A tester attempts to evaluate if all such cases (where a specific action is not allowed) are covered by the tests.

Which coverage metric will provide the needed information for this analysis?

Options:

A- Code coverage

B- Data flow coverage

C- Statement coverage

D- Branch Coverage

Answer:

D

Explanation:

Branch coverage is a type of structural coverage metric that measures the percentage of branches or decision outcomes that are executed by the test cases. A branch is a point in the code where the control flow can take two or more alternative paths based on a condition. For example, an if-else statement is a branch that can execute either the if-block or the else-block depending on the evaluation of the condition. Branch coverage ensures that each branch is taken at least once by the test cases, and thus reveals the behavior of the software under different scenarios. Branch coverage is also known as decision coverage or all-edges coverage.

Branch coverage is suitable for testing the cases where a specific action is not allowed, because it can verify that the test cases cover all the possible outcomes of the conditions that determine the action. For example, if the program has a condition that checks if the manufacturing stage can be stopped, then branch coverage can ensure that the test cases cover both the cases where the stage can be stopped and where it cannot be stopped. This way, branch coverage can help identify any missing or incorrect branches that may lead to undesired or unsafe actions.

The other options are not correct because they are not suitable for testing the cases where a specific action is not allowed. Code coverage is a general term that encompasses various types of coverage metrics, such as statement coverage, branch coverage, data flow coverage, etc. Code coverage does not specify which type of coverage metric is used for the analysis. Data flow coverage is a type of structural coverage metric that measures the percentage of data flow paths that are executed by the test cases. A data flow path is a sequence of statements that define, use, or kill a variable. Data flow coverage is useful for testing the correctness and completeness of the data manipulation in the software, but not for testing the conditions that determine the actions. Statement coverage is a type of structural coverage metric that measures the percentage of statements or lines of code that are executed by the test cases. Statement coverage ensures that each statement is executed at least once by the test cases, but it does not reveal the behavior of the software

under different scenarios. Statement coverage is a weaker criterion than branch coverage, because it does not account for the branches or decision outcomes in the code.Reference= ISTQB Certified Tester Foundation Level (CTFL) v4.0 syllabus, Chapter 4: Test Techniques, Section 4.3: Structural Testing Techniques, Pages 51-54.

Question 6

Question Type: MultipleChoice

Which of the following applications will be the MOST suitable for testing by Use Cases

Options:

A- Accuracy and usability of a new Navigation system compared with previous system

B- A billing system used to calculate monthly charge based or large number of subscribers parameters

C- The ability of an Anti virus package to detect and quarantine a new threat

D- Suitability and performance of a Multi media (audio video based) system to a new operating system

Answer:

A

Explanation:

A new navigation system compared with a previous system is the most suitable application for testing by use cases, because it involves a high level of interaction between the user and the system, and the expected behavior and outcomes of the system are based on the user's needs and goals. Use cases can help to specify the functional requirements of the new navigation system, such as the ability to enter a destination, select a route, follow the directions, receive alerts, etc. Use cases can also help to compare the accuracy and usability of the new system with the previous system, by defining the success and failure scenarios, the preconditions and postconditions, and the alternative flows of each use case. Use cases can also help to design and execute test cases that cover the main and exceptional paths of each use case, and to verify the satisfaction of the user's expectations.

The other options are not the most suitable applications for testing by use cases, because they do not involve a high level of interaction between the user and the system, or the expected behavior and outcomes of the system are not based on the user's needs and goals. A billing system used to calculate monthly charge based on a large number of subscriber parameters is more suitable for testing by data-driven testing, which is a technique for testing the functionality and performance of a system or component by using a large set of input and output data. The ability of an antivirus package to detect and quarantine a new threat is more suitable for testing by exploratory testing, which is a technique for testing the functionality and security of a system or component by using an informal and flexible approach, based on the tester's experience and intuition. The suitability and performance of a multimedia (audio video based) system to a new operating system is more suitable for testing by compatibility testing, which is a technique for testing the functionality and performance of a system or component by using different hardware, software, or network environments.Reference= CTFL 4.0 Syllabus, Section 3.1.1, page 28-29; Section 4.1.1, page 44-45; Section 4.2.1, page 47-48.

Question 7

Question Type: MultipleChoice

A company runs a pilot project for evaluation of a test automation tool. Which of the following is NOT a valid object of this pilot project?

Options:

A- Get familiar with the functionality and options of the tool

B- Check haw the tool fits to the existing test processes

C- Train all testers on using the tool

D- Decide upon standards for tool implementation

Answer:

C

Explanation:

A pilot project is a small-scale experiment or trial that is conducted to evaluate the feasibility, effectiveness, and suitability of a test automation tool before implementing it on a larger scale1.

The objectives of a pilot project may vary depending on the context and scope of the test automation initiative, but some common ones are2:

To get familiar with the functionality and options of the tool

To check how the tool fits to the existing test processes and environment

To assess the benefits and challenges of using the tool

To decide upon standards and guidelines for tool implementation and usage

To estimate the costs and resources required for tool deployment and maintenance

Therefore, option C is not a valid objective of a pilot project, as it is not necessary to train all testers on using the tool at this stage. Training all testers on using the tool would be more appropriate after the tool has been selected and approved for full-scale implementation, and after the standards and guidelines have been established. Training all testers on using the tool during the pilot project would be inefficient, costly, and premature, as the tool may not be suitable or effective for the intended purpose, or may be replaced by another tool later.

1: ISTQB Certified Tester Foundation Level Syllabus 2018, Version 4.0, p. 82

2: ISTQB Certified Tester Foundation Level Syllabus 2018, Version 4.0, p. 83

: ISTQB Certified Tester Foundation Level Syllabus 2018, Version 4.0, p. 84

: ISTQB Certified Tester Foundation Level Syllabus 2018, Version 4.0, p. 85

Question 8

Question Type: MultipleChoice

Which of the following issues cannot be identified by static analysis tools?

Options:

A- Very low MTBF (Mean Time Between failure)

B- Potentially endless loops

C- Referencing a variable with an undefined value

D- Security vulnerabilities

Answer:

A

Explanation:

Static analysis tools are software tools that examine the source code of a program without executing it.They can detect various types of issues, such as syntax errors, coding standards violations, security vulnerabilities, and potential bugs12.However, static analysis tools cannot identify issues that depend on the runtime behavior or performance of the program, such as very low MTBF (Mean Time Between failure)3. MTBF is a measure of the reliability of a system or component. It is calculated by dividing the total operating time by the number of failures. MTBF reflects how often a system or component fails during its expected lifetime. Static analysis tools cannot measure MTBF because they do not run the program or observe its failures.MTBF can only be estimated by dynamic testing, which

involves executing the program under various conditions and collecting data on its failures4. Therefore, very low MTBF is an issue that cannot be identified by static analysis tools. The other options, such as potentially endless loops, referencing a variable with an undefined value, and security vulnerabilities, are issues that can be identified by static analysis tools.Static analysis tools can detect potentially endless loops by analyzing the control flow and data flow of the program and checking for conditions that may never become false5.Static analysis tools can detect referencing a variable with an undefined value by checking the scope and initialization of variables and reporting any use of uninitialized variables6. Static analysis tools can detect security vulnerabilities by checking for common patterns of insecure code, such as buffer overflows, SQL injections, cross-site scripting, and weak encryption.Reference=What Is Static Analysis? Static Code Analysis Tools - Perforce Software,How Static Code Analysis Works | Perforce,Static Code Analysis: Techniques, Top 5 Benefits & 3 Challenges,What is MTBF? Mean Time Between Failures Explained | Perforce,Static analysis tools - Software Testing MCQs - CareerRide,ISTQB_Chapter3 | Quizizz, [Static Code Analysis for Security Vulnerabilities | Perforce].

Question 9

Question Type: MultipleChoice

Which of the following are the phases of the ISTQB fundamental test process?

Options:

A- Test planning and control, Test analysis and design, Test implementation and execution, Evaluating ex t criteria and reporting. Test closure activities

B- Test planning, Test analysis and design. Test implementation and control. Checking test coverage and reporting, Test closure activities

C- Test planning and control, Test specification and design. Test implementation and execution, Evaluating test coverage and reporting, Retesting and regression testing, Test closure activities

D- Test planning. Test specification and design. Test implementation and execution. Evaluating exit criteria and reporting. Retesting and test closure activities

Answer:

A

Explanation:

The ISTQB fundamental test process consists of five main phases, as described in the ISTQB Foundation Level Syllabus, Version 4.0, 2018, Section 2.2, page 15:

Test planning and control: This phase involves defining the test objectives, scope, strategy, resources, schedule, risks, and metrics, as well as monitoring and controlling the test activities and results throughout the test process.

Test analysis and design: This phase involves analyzing the test basis (such as requirements, specifications, or user stories) to identify test conditions (such as features, functions, or scenarios) that need to be tested, and designing test cases and test procedures (such as inputs, expected outcomes, and execution steps) to cover the test conditions. This phase also involves evaluating the testability of the test basis and the test items (such as software or system components), and selecting and implementing test techniques (such as equivalence partitioning, boundary value analysis, or state transition testing) to achieve the test objectives and optimize the test

coverage and efficiency.

Test implementation and execution: This phase involves preparing the test environment (such as hardware, software, data, or tools) and testware (such as test cases, test procedures, test data, or test scripts) for test execution, and executing the test procedures or scripts according to the test plan and schedule. This phase also involves logging the outcome of test execution, comparing the actual results with the expected results, and reporting any discrepancies as incidents (such as defects, errors, or failures).

Evaluating exit criteria and reporting: This phase involves checking if the planned test activities have been completed and the exit criteria (such as quality, coverage, or risk levels) have been met, and reporting the test results and outcomes to the stakeholders. This phase also involves making recommendations for the release or acceptance decision based on the test results and outcomes, and identifying any residual risks (such as known defects or untested areas) that need to be addressed or mitigated.

Test closure activities: This phase involves finalizing and archiving the testware and test environment for future reuse, and evaluating the test process and the test project against the test objectives and the test plan. This phase also involves identifying any lessons learned and best practices, and communicating the findings and suggestions for improvement to the relevant parties.

Reference= ISTQB Certified Tester Foundation Level Syllabus, Version 4.0, 2018, Section 2.2, page 15; ISTQB Glossary of Testing Terms, Version 4.0, 2018, pages 37-38; ISTQB CTFL 4.0 - Sample Exam - Answers, Version 1.1, 2023, Question 88, page 32.

Question 10

Question Type: **MultipleChoice**

Who of the following has the best knowledge to decide what tests in a test project should be automated?

Options:

A- The developer

B- The customer

C- The development manager

D- The test leader

Answer:

D

Explanation:

The test leader is the person who is responsible for planning, monitoring, and controlling the test activities and resources in a test project. The test leader should have the best knowledge of the test objectives, scope, risks, resources, schedule, and quality criteria.The test leader should also be aware of the test automation criteria, such as the execution frequency, the test support, the team education, the roles and responsibilities, and the devs and testers collaboration1. Based on these factors, the test leader can decide which tests are suitable for automation and which are not, and prioritize them accordingly.The test leader can also coordinate with the test automation engineers, the developers, and the stakeholders to ensure the alignment of the test automation strategy with the test project goals and expectations.Reference= ISTQB Certified Tester Foundation Level (CTFL) v4.0 Syllabus, Chapter 2, Section 2.3.1, Page 152; ISTQB Glossary of Testing Terms v4.0, Page 403; ISTQB Certified Tester Foundation Level (CTFL) v4.0 Syllabus, Chapter 6, Section 6.1.1,

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