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Sample Exam Paper

Authored by:

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(SET A4Q_SDET_Sample-Exam-Answers_SetA_2022_EN)

A4Q SDET Syllabus 2022 // Glossary



Introduction

This is a sample exam. It helps candidates to prepare for the actual certification exam. Questions are included whose structure, layout and format are like a regular exam.

This version of the sample exam questions for A4Q-SDET has been compiled from the following sources:

- ISTQB® CTFL CORE 2018 V3.1; SAMPLE EXAM SET A and SET B,
- CTAL-TTA V4.0; SAMPLE EXAM PAPER,
- and other supplemental questions created by a GTB working group.

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General information:

Number of questions: 40

Duration of the exam: 60 minutes

Total score: 40 (one point per question)

Score to pass the exam: 26 (or more)

Percentage score to pass the exam: 65% (or more)

Questions on the topic "Fundamentals of Testing"

Question 1		K1	Score	1.0
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Which of the following provides the definition of the term test case?

Select exactly ONE option.

a)	Subset of the value domain of a variable within a component or system in which all values are expected to be treated the same based on the specification	<input type="checkbox"/>
b)	A set of preconditions, inputs, actions, expected results and postconditions, developed based on test conditions	<input type="checkbox"/>
c)	Work products produced during the test process for use in planning, designing, executing, evaluating and reporting on testing	<input type="checkbox"/>
d)	A source to determine an expected result to compare with the actual result of the system under test	<input type="checkbox"/>

Question 2		K1	Score	1.0
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Which of the following statements is a valid objective for testing?

Select exactly ONE option.

a)	The test should start as late as possible so that development has enough time to create a good product	<input type="checkbox"/>
b)	To validate whether the test object works as expected by the users and other stakeholders	<input type="checkbox"/>
c)	To prove that all possible defects are identified	<input type="checkbox"/>
d)	To prove that any remaining defects will not cause any failures	<input type="checkbox"/>

Question 3		K2	Score 1.0
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Which of the following statements CORRECTLY describes the difference between testing and debugging?

Select exactly ONE option.

a)	Testing identifies the source of defects; debugging analyzes the defects and proposes prevention activities	<input type="checkbox"/>
b)	Dynamic testing shows failures caused by defects; debugging eliminates the defects, which are the source of failures	<input type="checkbox"/>
c)	Testing does not remove faults; but debugging removes defects that cause the faults	<input type="checkbox"/>
d)	Dynamic testing prevents the causes of failures; debugging removes the failures	<input type="checkbox"/>

Question 4		K2	Score 1.0
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What is an important reason for testing in the software development process?

Select exactly ONE option.

a)	Through its results, testing can be used as a tool to evaluate the performance of developers.	<input type="checkbox"/>
b)	Testing can help prevent possible failures of the software during operation.	<input type="checkbox"/>
c)	Testing is always required by law.	<input type="checkbox"/>
d)	Testing always ensures that all requirements are fully and correctly met.	<input type="checkbox"/>

Question 5		K2	Score 1.0
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Which of the following statements describes the relationship between testing and quality assurance?

Select exactly ONE option.

a)	Testing is part of quality assurance.	<input type="checkbox"/>
b)	Testing always leads to better product requirements.	<input type="checkbox"/>
c)	Testing early in the development process contributes little to quality assurance.	<input type="checkbox"/>
d)	The more test cases are executed, the higher the quality of the software.	<input type="checkbox"/>

Question 6		K2	Score 1.0
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Which of the following is an example of a failure in a car cruise control system?

Select exactly ONE option.

a)	The developer of the system forgot to rename variables after a cut-and-paste operation	<input type="checkbox"/>
b)	Unnecessary code that sounds an alarm when reversing was included in the system	<input type="checkbox"/>
c)	The system stops maintaining a set speed when the radio volume is increased or decreased	<input type="checkbox"/>
d)	The design specification for the system wrongly states speeds	<input type="checkbox"/>

Question 7		K2	Score 1.0
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Which of the following is a defect rather than a root cause in a fitness tracker?

Select exactly ONE option.

a)	Because the author of the requirements was unfamiliar with the domain of fitness training. The author therefore wrongly assumed that users wanted heartbeat in beats per hour.	<input type="checkbox"/>
b)	The tester of the smartphone interface had not been trained in state transition testing, so missed a major defect.	<input type="checkbox"/>
c)	An incorrect configuration variable implemented for the GPS function could cause location problems during daylight saving times.	<input type="checkbox"/>
d)	Due to insufficient of experience with wearable devices, the designer of the user interface did not consider the effects of reflected sunlight.	<input type="checkbox"/>

Question 8		K2	Score 1.0
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Mr. Test has been testing software applications on mobile devices for a period of 5 years. He has a wealth of experience in testing mobile applications and achieves better results in a shorter time than others. Over several months, Mr. Test did not modify the existing automated test cases and did not create any new test cases. This leads to fewer and fewer defects being found by executing the tests. What principle of testing did Mr. Test not observe?

Select exactly ONE option.

a)	Testing depends on the environment	<input type="checkbox"/>
b)	Exhaustive testing is not possible	<input type="checkbox"/>
c)	Repeating of same tests will not find new defects	<input type="checkbox"/>
d)	Defects cluster together	<input type="checkbox"/>

Questions on the topic “Testing Throughout the Software Development Lifecycle”

Question 9		K1	Score	1.0
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Which of the following statements is a correct definition for regression testing?

Select exactly ONE option.

a)	Testing to see if defects have been introduced into unchanged areas of the software.	<input type="checkbox"/>
b)	Testing the impact of a changed environment to an operational system.	<input type="checkbox"/>
c)	Testing the changes to an operational system.	<input type="checkbox"/>
d)	Testing after fixing a defect to confirm that a failure caused by that defect no longer occurs.	<input type="checkbox"/>

Question 10		K2	Score	1.0
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Which of the following terms is a white-box test technique?

Select exactly ONE option.

a)	Decision testing	<input type="checkbox"/>
b)	Performance efficiency testing	<input type="checkbox"/>
c)	Code review	<input type="checkbox"/>
d)	Equivalence partitioning	<input type="checkbox"/>

Question 11	K2	Score	1.0
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Which of the following statements BEST compares the purposes of confirmation testing and regression testing?

Select exactly ONE option.

a)	The purpose of regression testing is to ensure that all previously run tests still work CORRECTLY, while the purpose of confirmation testing is to ensure that any fixes made to one part of the system have not adversely affected other parts	<input type="checkbox"/>
b)	The purpose of confirmation testing is to check that a previously found defect has been fixed, while the purpose of regression testing is to ensure that no other parts of the system have been adversely affected by the fix	<input type="checkbox"/>
c)	The purpose of regression testing is to ensure that any changes to one part of the system have not caused another part to fail, while the purpose of confirmation testing is to check that all previously run tests still provide the same results as before	<input type="checkbox"/>
d)	The purpose of confirmation testing is to confirm that changes to the system were made successfully, while the purpose of regression testing is to run tests that previously failed to ensure that they now work CORRECTLY	<input type="checkbox"/>

Question 12	K2	Score	1.0
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Which of the following should NOT be a trigger for maintenance testing?

Select exactly ONE option.

a)	Decision to test the maintainability of the software	<input type="checkbox"/>
b)	Decision to test the system after migration to a new operating platform	<input type="checkbox"/>
c)	Decision to test if archived data is possible to be retrieved	<input type="checkbox"/>
d)	Decision to test after “hot fixes”	<input type="checkbox"/>

Question 13		K2	Score 1.0
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Which of the following statements CORRECTLY describes a role of impact analysis in maintenance?

Select exactly ONE option.

a)	Impact analysis is used when deciding if a fix to a maintained system is worthwhile	<input type="checkbox"/>
b)	Impact analysis is used to identify how data should be migrated into the maintained system	<input type="checkbox"/>
c)	Impact analysis is used to decide which hot fixes are of most value to the user	<input type="checkbox"/>
d)	Impact analysis is used to determine the effectiveness of new maintenance test cases	<input type="checkbox"/>

Questions on the topic “Static Testing”

Question 14		K1	Score	1.0
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Which of the following statements is a **CORRECT** definition for the checklist-based review?

Select exactly **ONE** option.

a)	A review technique guided by a list of questions or required attributes.	<input type="checkbox"/>
b)	A type of review that follows a defined process and has a formally documented output.	<input type="checkbox"/>
c)	A type of static testing in which a work product or process is evaluated by one or more individuals to identify defects or to propose improvements.	<input type="checkbox"/>
d)	A review technique in which a work product is evaluated from the perspective of different stakeholders.	<input type="checkbox"/>

Question 15		K1	Score	1.0
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Which of the following is a correct definition of cyclomatic complexity?

Select exactly **ONE** option.

a)	The maximum number of linear, independent paths through a program.	<input type="checkbox"/>
b)	The degree to which a component or system has a design and/or internal structure that is difficult to understand, maintain and verify.	<input type="checkbox"/>
c)	The coverage of sequences of N+1 transitions.	<input type="checkbox"/>
d)	The coverage of all outcomes of the atomic conditions that independently affect the overall decision outcome.	<input type="checkbox"/>

Question 16		K1	Score 1.0
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An agile team determines that any newly developed code is evaluated by one or more people before execution to identify error conditions or make improvements. Which term BEST applies to this approach?

Select exactly ONE option.

a)	Review	<input type="checkbox"/>
b)	Static Analysis	<input type="checkbox"/>
c)	White Box Testing	<input type="checkbox"/>
d)	Pairwise Testing	<input type="checkbox"/>

Question 17		K1	Score 1.0
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What is a definition-use pair?

Select exactly ONE option.

a)	The association of a definition of a variable with the subsequent use of that variable.	<input type="checkbox"/>
b)	The association of an executable statement in the source code with the use of that statement in the execution of the code.	<input type="checkbox"/>
c)	The association of a comment in the code that describes the meaning of a variable with the subsequent use of that variable in the code.	<input type="checkbox"/>
d)	The association between the definition of the behaviour of the software in the specification and the code that implements that behaviour.	<input type="checkbox"/>

Question 18		K3	Score	1.0
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You have been asked to take part in a checklist-based review of the following excerpt from the requirements specification for a library system:

Librarians can:

1. Register new borrowers
2. Return books from borrowers
3. Accept fines from borrowers
4. Add new books to the system with their ISBN, author and title
5. Remove books from the system
6. Get system responses within 5 seconds

Borrowers can:

7. Borrow a maximum of 3 books at one time
8. View the history of books they have borrowed/reserved
9. Be fined for failing to return a book within 3 weeks
10. Get system responses within 3 seconds
11. Borrow a book at no cost for a maximum of 4 weeks
12. Reserve books (if they are on-loan)

All users (librarians and borrowers):

13. Can search for books by ISBN, author, or title
14. Can browse the system catalogue
15. The system shall respond to user requests within 3 seconds
16. The user interface shall be easy-to-use

You have been assigned the checklist entry that requires you to review the specification for inconsistencies between individual requirements (i. e. conflicts between requirements).

(Continued on the next page)

Which of the following CORRECTLY identifies inconsistencies between pairs of requirements?

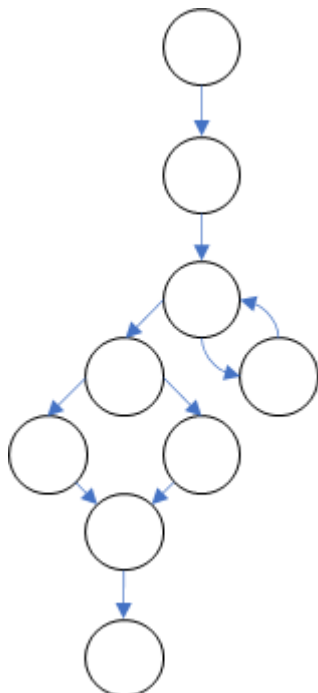
Select exactly ONE option.

a)	6-10, 6-15, 7-12	<input type="checkbox"/>
b)	6-15, 9-11	<input type="checkbox"/>
c)	6-10, 6-15, 9-11	<input type="checkbox"/>
d)	6-15, 7-12	<input type="checkbox"/>

Question 19	K3	Score 1.0
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Below is the pseudo-code and the control-flow-graph for a program, that calculates and prints sales commissions:

```
00 program sales commissions calculation
01 sum, number: integer
02 commissions_max, commissions_min: real
03 begin
04     read (number)
05     while number ≠ -1 loop
06         sum = sum + number
07         read (number)
08     endloop
09     if sum > 1000 then
10         commissions_max = 100 + 0.2 * (sum - 1000)
11     else
12         commissions_min = 0.15 * sum
13     endif
14     write ("The commissions is, as follows:")
15     write (commissions_max)
16 end program sales commissions calculation
```



Select exactly ONE option.

a)	The control flow graph corresponds to the pseudo code. The cyclomatic number according to Mc Cabe is 3.	<input type="checkbox"/>
b)	The control flow graph corresponds to the pseudo code. The Mc Cabe cyclomatic number is 4.	<input type="checkbox"/>
c)	The control flow graph does not correspond to the pseudo code. The cyclomatic number according to Mc Cabe is 3.	<input type="checkbox"/>
d)	The control flow graph corresponds to the pseudo code. The cyclomatic number according to Mc Cabe is 1.	<input type="checkbox"/>

Question 20	K2	Score 1.0
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Below is the pseudo-code for a program that calculates and prints sales commissions:

```

00 program Calculate Commission
01 total, number : integer
02 commission_hi, commission_lo : real
03 begin
04     read ( number )
05     while number ≠ -1 loop
06         total = total + number
07         read ( number )
08     endloop
09     if total > 1000 then
10         commission_hi = 100 + 0.2 * ( total - 1000 )
11     else
12         commission_lo = 0.15 * total
13     endif
14     write ( "This salesman's commission is:")
15     write ( commission_hi )
16 end program Calculate Commission

```

The code contains data flow anomalies on lines 6 and 12 (highlighted text).

Which examples of data flow anomalies are to be found on these lines?

Select exactly ONE option.

a)	line 6: variable "total" is not assigned a value before using it line 12: variable "commission_lo" is defined but subsequently not used	<input type="checkbox"/>
b)	line 6: an invalid value is assigned to variable "total" line 12: variable "commission_lo" is redefined before it is used	<input type="checkbox"/>
c)	line 6: variable "total" is out of scope line 12: the "hard-coded" value "0.15" should not be used	<input type="checkbox"/>
d)	line 6: the variable "number" is undefined line 12: the variable "total" is redefined before it is used	<input type="checkbox"/>

Question 21	K3	Score	1.0
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Below you can see the pseudo-code for a program called TRICKY.

```
00  programme TRICKY
01  var1, var2, var3: integer
02  begin
03      read(var2)
04      read( var1 )
05      while var2 < 10 loop
06          var3 = var2 + var1
07          var2 = 4
08          var1 = var2 + 1
09          print ( var3 )
10          if var1 = 5 then
11              print ( var1 )
12          else
13              print ( var1+1 )
14          endif
15          var2 = var2 + 1
16      endloop
17      write ( "Wow - that was tricky!" )
18      write ( "But the answer is..." )
19      write ( var2+var1 )
20  end program TRICKY
```

How could the use of static analysis best improve the maintainability of the program?

Select exactly ONE option.

a)	Restructuring the code	<input type="checkbox"/>
b)	Reducing coupling between programs	<input type="checkbox"/>
c)	Increasing the number of comments	<input type="checkbox"/>
d)	Improving the indentation of the code	<input type="checkbox"/>

Questions on the topic "Test Techniques"

Question 22		K1	Score	1.0
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What is checklist-based testing?

Select exactly ONE option.

a)	A test technique in which tests are derived based on the tester's knowledge of past faults, or general knowledge of failures	<input type="checkbox"/>
b)	A test technique based on an analysis of the specification of a component or system	<input type="checkbox"/>
c)	An experience-based test technique whereby the experienced tester uses a list of items to be noted, checked, or remembered, or a set of rules or criteria against which a product must be verified	<input type="checkbox"/>
d)	An approach to testing where the testers dynamically design and execute tests based on their knowledge, exploration of the test item and the results of previous tests	<input type="checkbox"/>

Question 23		K1	Score 1.0
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Which of the following provides the BEST description of exploratory testing?

Select exactly ONE option.

a)	A testing practice in which an in-depth investigation of the background of the test object is used to identify potential weaknesses that are examined by test cases	<input type="checkbox"/>
b)	An approach to testing whereby the testers dynamically designs and execute tests based on their knowledge, exploration of the test item and the results of previous tests	<input type="checkbox"/>
c)	An approach to test design in which test activities are planned as uninterrupted sessions of test analysis and design, often used in conjunction with checklist-based testing	<input type="checkbox"/>
d)	Testing based on the tester's experience, knowledge and intuition	<input type="checkbox"/>

Question 24		K1	Score 1.0
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Which of the following statements is a correct definition for modified condition/decision testing?

Select exactly ONE option.

a)	A white-box test technique in which test cases are designed to exercise outcomes of atomic conditions that independently affect a decision outcome.	<input type="checkbox"/>
b)	A white-box test technique in which test cases are designed to exercise outcome combinations of atomic conditions.	<input type="checkbox"/>
c)	A white-box test technique in which test cases are designed to execute condition outcomes and decision outcomes.	<input type="checkbox"/>
d)	A white-box test technique in which test cases are designed to execute decision outcomes.	<input type="checkbox"/>

Question 25		K2	Score 1.0
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Which of the following **BEST** matches the descriptions with the different categories of test techniques?

1. Coverage is measured based on a selected structure of the test object
2. The processing within the test object is checked
3. Tests are based on experience about the likelihood of defects and their distribution
4. Deviations from the requirements are checked
5. User stories are used as the test basis

Using notation for the following 4 options:

- Black** – Black-box test techniques
White – White-box test techniques
Experience – Experience-based test techniques

Select exactly **ONE** option.

a)	Black – 4, 5; White – 1, 2; Experience – 3	<input type="checkbox"/>
b)	Black – 3; White – 1, 2; Experience – 4, 5	<input type="checkbox"/>
c)	Black – 4; White – 1, 2; Experience – 3, 5	<input type="checkbox"/>
d)	Black – 1, 3, 5; White – 2; Experience – 4	<input type="checkbox"/>

Question 26		K2	Score	1.0
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You are adding functionality to a mobile application. When preparing the component integration test, you have discovered that a previously very failure-prone component has been changed by an external manufacturer, but there is no updated specification for it.

Which of the following test techniques is BEST suited to still be able to test the functionality you have implemented in a meaningful way?

Select exactly ONE option.

a)	White-box test technique	<input type="checkbox"/>
b)	Experience-based test technique	<input type="checkbox"/>
c)	Specification-based test technique	<input type="checkbox"/>
d)	Black-box test technique	<input type="checkbox"/>

Question 27	K3	Score	1.0
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A daily radiation recorder for plants produces a sunshine score based on a combination of the number of hours a plant is exposed to the sun (below 3 hours, 3 to 6 hours or above 6 hours) and the average intensity of the sunshine (very low, low, medium, high).

Given the following test cases:

	Hours	Intensity	Score
T1	1.5	v. low	10
T2	7.0	medium	60
T3	0.5	v. low	10

What is the minimum number of additional test cases that are needed to ensure full coverage of ALL VALID INPUT equivalence partitions?

Select exactly ONE option.

a)	1	<input type="checkbox"/>
b)	2	<input type="checkbox"/>
c)	3	<input type="checkbox"/>
d)	4	<input type="checkbox"/>

Question 28	K3	Score 1.0
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A smart home app measures the average temperature in the house over the previous week and provides feedback to the occupants.

The feedback for different average temperature ranges (to the nearest °C) should be:

- Up to 10°C – Icy Cool!**
- 11°C to 15°C – Chilled Out!**
- 16°C to 19°C – Cool Man!**
- 20°C to 22°C – Too Warm!**
- Above 22°C – Hot & Sweaty!**

Using BVA (only Min- and Max values), which of the following sets of test inputs provides the highest level of boundary coverage?

Select exactly ONE option.

a)	0°C,	11°C,	20°C,	22°C,	23°C	<input type="checkbox"/>
b)	9°C,	15°C,	19°C,	23°C,	100°C	<input type="checkbox"/>
c)	10°C,	16°C,	19°C,	22°C,	23°C	<input type="checkbox"/>
d)	14°C,	15°C,	18°C,	19°C,	21°C 22°C	<input type="checkbox"/>

Question 29	K3	Score 1.0
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A company's employees are paid bonuses if they work more than a year in the company and achieve a target which is individually agreed in advance.

These facts can be shown in a decision table:

Test-ID		T1	T2	T3	T4
Condition1	Employment for more than 1 year?	YES	NO	NO	YES
Condition2	Agreed target?	NO	NO	YES	YES
Condition3	Achieved target?	NO	NO	YES	YES
Action	Bonus payment	NO	NO	NO	YES

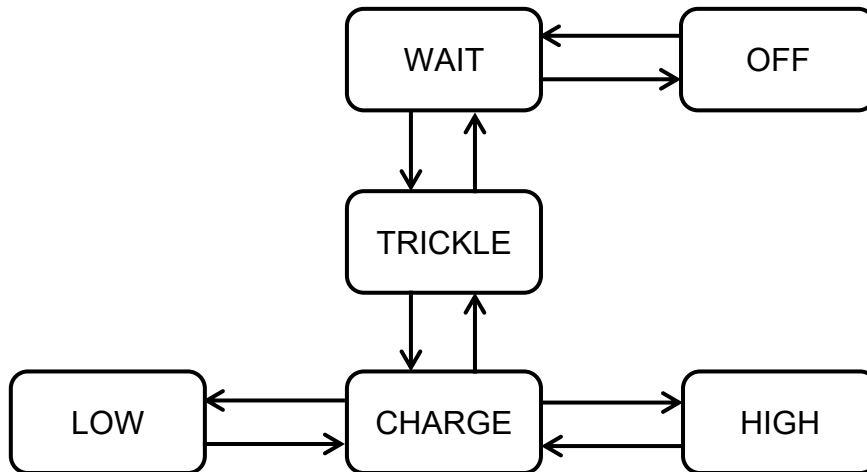
Which of the following test cases represents a situation that can happen in practice, and is missing in the above decision table?

Select exactly ONE option.

a)	Condition1 = YES, Condition2 = NO, Condition3 = YES, Action= NO	<input type="checkbox"/>
b)	Condition1 = YES, Condition2 = YES, Condition3 = NO, Action= YES	<input type="checkbox"/>
c)	Condition1 = NO, Condition2 = NO, Condition3 = YES, Action= NO	<input type="checkbox"/>
d)	Condition1 = NO, Condition2 = YES, Condition3 = NO, Action= NO	<input type="checkbox"/>

Question 30	K3	Score 1.0
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Given the following state model of a battery charger software:



Which of the following sequences of transitions provides the highest level of transition coverage for the model?

Select exactly ONE option.

a)	OFF → WAIT → OFF → WAIT → TRICKLE → CHARGE → HIGH → CHARGE → LOW	<input type="checkbox"/>
b)	WAIT → TRICKLE → WAIT → OFF → WAIT → TRICKLE → CHARGE → LOW → CHARGE	<input type="checkbox"/>
c)	HIGH → CHARGE → LOW → CHARGE → TRICKLE → WAIT → TRICKLE → WAIT → TRICKLE	<input type="checkbox"/>
d)	WAIT → TRICKLE → CHARGE → HIGH → CHARGE → TRICKLE → WAIT → OFF → WAIT	<input type="checkbox"/>

Question 31		K2	Score 1.0
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Which of the following statements BEST describes how test cases are derived from a use case?

Select exactly ONE option.

a)	Test cases are created to exercise defined basic, exceptional and error behaviors performed by the system under test in collaboration with actors	<input type="checkbox"/>
b)	Test cases are derived by identifying the components included in the use case and creating integration tests that exercise the interactions of these components	<input type="checkbox"/>
c)	Test cases are generated by analyzing the interactions of the actors with the system to ensure the user interfaces are easy to use	<input type="checkbox"/>
d)	Test cases are derived to exercise each of the decision points in the business process flows of the use case, to achieve 100% decision coverage of these flows	<input type="checkbox"/>

Question 32		K2	Score 1.0
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You are creating an application (automatic parking) for an automotive manufacturer.

The following use cases were created by a colleague:

- **UC 1 The sensor system determines the possible parking lot**
- **UC 2 The vehicle performs the parking procedure independently**
- **UC 3 The result of the parking process appears on the display**

Based on this use case, the following abstract (logical) test cases were created by the colleague. Which of these test cases fits to the use case UC 3?

Select exactly ONE option.

a)	A sufficiently large parking space has been identified by the parking assistant.	<input type="checkbox"/>
b)	The driver is informed on their display that the vehicle has been successfully parked.	<input type="checkbox"/>
c)	Parking is not possible because of a sudden obstacle; the parking process is automatically aborted.	<input type="checkbox"/>
d)	The parking space is not recognized, although the space is sufficient (sensors dirty).	<input type="checkbox"/>

Question 33		K2	Score 1.0
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Which of the following descriptions of statement coverage is CORRECT?

Select exactly ONE option.

a)	Statement coverage is a measure of the number of lines of source code exercised by tests	<input type="checkbox"/>
b)	Statement coverage is a measure of the proportion of executable statements in the source code exercised by tests	<input type="checkbox"/>
c)	Statement coverage is a measure of the percentage of lines of source code (without comments) exercised by tests	<input type="checkbox"/>
d)	Statement coverage is a measure of the number of executable statements in the source code exercised by tests	<input type="checkbox"/>

Question 34		K2	Score 1.0
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Which one of the following is the CORRECT description of statement coverage?

Select exactly ONE option.

a)	It is a metric, which is the percentage of test cases that have been executed	<input type="checkbox"/>
b)	It is a metric, which is the percentage of statements in the source code that have been executed	<input type="checkbox"/>
c)	It is a metric, which is the number of statements in the source code that have been executed by test cases that are passed	<input type="checkbox"/>
d)	It is a metric, that gives a true/false confirmation if all statements are covered or not	<input type="checkbox"/>

Question 35		K2	Score 1.0
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The following statement refers to decision coverage:

“When the code contains only a single ‘if’ statement and no loops or CASE statements, and its execution is not nested within the test, any single test case we run will result in 50% decision coverage.”

Which of the following statement is **CORRECT**?

Select exactly **ONE** option.

a)	The statement is true. Any single test case provides 100% statement coverage and therefore 50% decision coverage	<input type="checkbox"/>
b)	The statement is true. Any single test case would cause the outcome of the “if” statement to be either true or false	<input type="checkbox"/>
c)	The statement is false. A single test case can only guarantee 25% decision coverage in this case	<input type="checkbox"/>
d)	The statement is false. The statement is too broad. It may be correct or not, depending on the tested software	<input type="checkbox"/>

Question 36		K2	Score 1.0
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Which of the following descriptions of decision coverage is **CORRECT**?

Select exactly **ONE** option.

a)	Decision coverage is a measure of the percentage of possible paths through the source code exercised by tests	<input type="checkbox"/>
b)	Decision coverage is a measure of the percentage of business flows through the component exercised by tests	<input type="checkbox"/>
c)	Decision coverage is a measure of the ‘if’ statements in the code that are exercised with both the true and false outcomes	<input type="checkbox"/>
d)	Decision coverage is a measure of the proportion of decision outcomes in the source code exercised by tests	<input type="checkbox"/>

Question 37		K2	Score 1.0
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Which statement about the relationship between statement coverage and decision coverage is true?

Select exactly ONE option.

a)	100% decision coverage also guarantees 100% statement coverage	<input type="checkbox"/>
b)	100% statement coverage also guarantees 100% decision coverage	<input type="checkbox"/>
c)	50% decision coverage also guarantees 50% statement coverage	<input type="checkbox"/>
d)	Decision coverage can never reach 100%	<input type="checkbox"/>

Question 38	K2	Score 1.0
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Below you find the pseudo code for the program EASY:

```

00  program EASY
01  var1, var2, var3: integer
02  easy: boolean
02  begin
03      read (var2)
04      read (var1)
05      read (easy)
06      If (easy = true) then
07          var3 = var2 + var1
08          print (var3)
09          if (var1 = 5) then
10              print (var1)
11          endif
12          var2 = var2 + 1
13      else
14          var2 = 0
15          write ("Wow - that was tricky!")
16      endif
17      write (var2)
18  end program EASY
    
```

Which of the following statements about the number of statement and decision coverage test cases is CORRECT?

Select exactly ONE option.

a)	100% statement coverage requires at least 4 test cases 100% decision coverage requires at least 2 test cases	<input type="checkbox"/>
b)	100% statement coverage requires at least 2 test cases 100% decision coverage requires at least 4 test cases	<input type="checkbox"/>
c)	100% statement coverage requires at least 2 test cases 100% decision coverage requires at least 2 test cases	<input type="checkbox"/>
d)	100% statement coverage requires at least 2 test cases 100% decision coverage requires at least 3 test cases	<input type="checkbox"/>

Question 39		K3	Score 1.0
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Consider the simplified logic of a tea-making machine:

```
Switch on machine
IF sufficient water THEN
    Boil water
    Add tea
    Show message "milk?"
    IF milk = yes THEN
        Show message "low fat?"
        IF low fat = yes THEN
            Add low fat milk
        ELSE
            Add normal milk
        ENDIF
    ENDIF
    Show message "sugar?"
    IF sugar = yes THEN
        Add sugar
    ENDIF
    Stir
    Wait 3 minutes
    Show message "please take your tea"
ELSE
    Show message "please fill up water"
ENDIF
```

How many test cases would you design to achieve 100% statement coverage for the tea-making machine?

Select exactly ONE option.

a)	3	<input type="checkbox"/>
b)	2	<input type="checkbox"/>
c)	5	<input type="checkbox"/>
d)	6	<input type="checkbox"/>

Question 40	K3	Score 1.0
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The simplified logic of a program has been specified as follows:

```
Statement P
IF A THEN
    IF B THEN
        Statement Q
    ELSE
        Statement R
    ENDIF
ELSE
    Statement S
    IF C THEN
        Statement T
    ELSE
        Statement U
    ENDIF
ENDIF
Statement V
```

How many test cases would you design to achieve 100% decision coverage?

Select exactly ONE option.

a)	2	<input type="checkbox"/>
b)	3	<input type="checkbox"/>
c)	4	<input type="checkbox"/>
d)	5	<input type="checkbox"/>



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