



A4Q Certified Selenium 4 Tester Foundation

**MOCK EXAM
Questions**

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Sample Questions

STF1-1 (K2) Explain the objectives, advantages, disadvantages, and limitations of test automation

1. What is the primary objective of implementing test automation in software testing?

- A) To reduce the cost of manual testing
- B) To increase the speed and efficiency of testing
- C) To eliminate the need for human testers entirely
- D) To replace the test development phase

STF1-2 (K2) Understand the relation between manual and automated tests

2. How do manual and automated testing complement each other in a software testing strategy?

- A) Automated testing can completely replace manual testing for all types of tests
- B) Manual testing is used only for functional testing, while automated testing is used only for non-functional testing
- C) Automated testing is ideal for repetitive tasks, while manual testing is better for exploratory and ad-hoc testing
- D) Manual and automated testing cannot be used together in the same project

STF1-3 (K1) Identify technical success factors of a test automation project

3. Which of the following is a key technical success factor for a test automation project?

- A) Ensure that the testing environment is stable and consistent
- B) Prioritise manual testing on the project as test automation may be unreliable
- C) Prioritise increasing the automated test coverage over automation test maintenance
- D) Automatically log the defect on the test management tool through the test automation solution

STF1-4 (K2) Explain the place of Selenium WebDriver in TAA

4. In the Test Automation Architecture (TAA), what is the primary role of Selenium WebDriver?

- A) Selenium WebDriver is responsible for storing test execution results in a centralized test management system.
- B) Selenium WebDriver interacts with the browser to simulate user actions.
- C) Selenium WebDriver is primarily used for generating test scripts in a low-code format, allowing non-technical users to automate tests.
- D) Selenium WebDriver is used to script unit tests in the backend services of an application.

STF1-5 (K2) Understand the risks and benefits of using Selenium WebDriver

5. Which of the following statements correctly highlights characteristics of Selenium WebDriver for test automation?

- A) Selenium WebDriver enables cross-browser testing, but its lack of support for advanced user interactions makes it unsuitable for complex UI testing.
- B) Selenium WebDriver offers extensive browser compatibility but requires additional tools for managing browser-specific behaviors and configurations.
- C) Selenium WebDriver automates tests for mobile applications directly, making it the best tool for both web and mobile automation without the need for extra tools.
- D) Selenium WebDriver ensures high test execution speed, but it struggles with executing tests on headless browsers, which can slow down test performance.

STF1-6 (K2) Explain the reason and purpose for metric collection in automation

6. Why is metric collection important in test automation?

- A) Metric collection is used to automate the process of reporting test results, ensuring the accuracy of test execution logs.
- B) Metric collection helps track the efficiency and effectiveness of the test automation process, enabling continuous improvement and decision-making.
- C) Metric collection ensures that all automated tests run without errors, preventing any test failures from occurring during execution.
- D) Metric collection is used to monitor system performance during test execution, focusing on CPU and memory usage.

STF1-7 (K2) Understand and compare objectives of using the Selenium toolset (WebDriver, Selenium IDE, Selenium Grid)

7. Which of the following statements MOST accurately compares the objectives and use of Selenium WebDriver, Selenium IDE, and Selenium Grid?

- A) Selenium WebDriver is primarily used for automating complex web application interactions programmatically, Selenium IDE is a tool for creating and executing simple test scripts via a browser plugin, and Selenium Grid allows for parallel execution of tests across multiple machines and browsers, making it ideal for scalability.
- B) Selenium WebDriver automates tests by recording user actions in the browser, Selenium IDE requires code writing to create test scripts, and Selenium Grid is used for managing test execution on a single machine.
- C) Selenium WebDriver supports automation on both web and mobile applications, Selenium IDE is a powerful tool for API testing, and Selenium Grid helps in debugging test scripts by executing them on different machines.
- D) Selenium WebDriver is used for running tests sequentially on a single browser instance, Selenium IDE is a code-free tool for executing scripts on mobile devices, and Selenium Grid is used for running automated tests on virtual machines only.

STF1-5 (K2) Understand the risks and benefits of using Selenium WebDriver

8. Which of the following is a benefit of using Selenium WebDriver for automated testing?

- A) It only supports Google Chrome for automated testing
- B) It can detect defects missed by API-level testing by testing at the UI level
- C) It requires a high upfront investment due to licensing fees
- D) It cannot be used in Agile teams due to its complexity

STF1-7 (K2) Understand and compare objectives of using the Selenium toolset (WebDriver, Selenium IDE, Selenium Grid)

9. Which of the following BEST describes the primary purpose of Selenium IDE in the Selenium toolset?

- A) To provide a highly flexible and scalable framework for complex automation tasks.
- B) To allow quick and simple creation of test cases through browser interaction recording and playback.

- C) To enable test execution across multiple machines and browsers concurrently.
- D) To interact directly with the browser using an object-oriented API for detailed web automation.

STF2-1 (K3) Analyze HTML and XML documents

10. Given the following HTML snippet, which of the following statements is TRUE regarding the tag?

```
<!DOCTYPE html>
<html>
  <body>
    
  </body>
</html>
```

- A) The alt attribute is used to specify the width of the image.
- B) The width and height attributes define the actual size of the image file on the server.
- C) The alt attribute provides a text description of the image, which is important for accessibility.
- D) The src attribute is used to specify the alternative text for the image.

STF2-2 (K3) Apply XPath to search XML documents

11. Given the following XML document, which of the following XPath expressions will select all the author elements of books that were published after the year 2000?

```
<library>
  <book>
    <title>Book A</title>
    <author>Author A</author>
    <year>1998</year>
  </book>
  <book>
    <title>Book B</title>
    <author>Author B</author>
    <year>2005</year>
  </book>
  <book>
    <title>Book C</title>
    <author>Author C</author>
    <year>2010</year>
  </book>
</library>
```

- A) /library/book[year>2000]/title
- B) //book[year>2000]/author
- C) /library/book/author[year>2000]
- D) //book[year>2000][author]

STF2-3 (K3) Apply CSS locators to find elements in HTML documents

12. Consider the following HTML page source:

```
<html>
  <body>
    <div class="A4Q_Selenium">
      <p class="A4Q_">Exam Content here.</p>
    </div>
  </body>
</html>
```

What would be the MOST appropriate locator to use to locate the p element for the above page source?

- A. using XPATH '/html/body/div/div'
- B. Using the p element id
- C. Using the ClassName locator to be equal to 'A4Q'
- D. Using the CSS selector 'p.A4Q_'

STF2-1 (K3) Analyze HTML and XML documents

13. Consider the following XML document:

```
<bookstore>
  <book>
    <title>XML for Beginners</title>
    <author>John Doe</author>
    <price>29.99</price>
  </book>
  <book>
    <title>Advanced XML</title>
    <author>Jane Smith</author>
    <price>39.99</price>
  </book>
</bookstore>
```

You need to extract all book titles from this XML document using an XPath expression. Which of the following XPath expressions would correctly return the titles of all books in the document?

- A) //book/title
- B) //bookstore/book/name
- C) /bookstore/book/titles
- D) //title/book

STF2-3 (K3) Apply CSS selectors to find elements in HTML documents

14. Given the following HTML document:

```
<html>
  <body>
    <ul id="menu">
      <li><a href="#home">Home</a></li>
      <li><a href="#services">Services</a></li>
      <li><a href="#contact">Contact</a></li>
    </ul>
  </body>
</html>
```

Which of the following CSS selectors would correctly select the <a> tag inside the second element?

- A) #menu li:nth-child(2) a
- B) #menu a:nth-of-type(2)
- C) li:nth-child(2) a
- D) #menu li a:nth-child(2)

STF2-2 (K3) Apply XPath to search XML documents

15. Given the following XML document:

```
<store>
  <product>
    <name>Product A</name>
    <price>25</price>
    <category>Electronics</category>
  </product>
  <product>
    <name>Product B</name>
    <price>15</price>
    <category>Books</category>
  </product>
  <product>
    <name>Product C</name>
    <price>30</price>
    <category>Electronics</category>
  </product>
</store>
```

Which of the following XPath expressions would select the <name> of all products that belong to the "Electronics" category and cost more than 20?

- A) //product[category='Electronics' and price>20]/name
- B) //product[name='Electronics' and price>20]/name
- C) //product[category='Electronics']/name
- D) //product[price>20]/name

STF3-1 (K3) Use appropriate logging and reporting mechanisms

16. You are testing a web application using Selenium 4 and need to generate a comprehensive test report after each test execution. The report should include the following:

- The status of the test (pass/fail)
- Detailed logs of the test execution
- Screenshots captured at the moment of failure
- A summary report that aggregates all the test data (test name, execution time, passed/failed status, logs, and screenshots).

Which of the following approaches is the most efficient and reliable way to achieve this?

- A) Use a test framework (e.g., TestNG or pytest) to generate detailed reports, integrate logging for execution logs, and capture screenshots on failures.
- B) Manually implement logging and reporting for each test case by writing custom code to capture logs, take screenshots, and generate the report after each test.
- C) Use the sleep() method to pause the active execution thread between each test, and after the test execution, manually take screenshots and write the test status and logs to a text file.
- D) Rely on visual inspection after each test execution, taking screenshots manually if a failure occurs and using basic print statements to output test results to the console.

STF3-2 (K3) Use hard and soft assertions

17. Which of the following BEST describes the difference between hard and soft assertions?

- A) Hard assertions stop the test execution immediately when a condition fails, while soft assertions allow the test to continue even if a condition fails and report all failures at the end.
- B) Hard assertions allow the test to continue even if a condition fails, while soft assertions stop the test execution immediately when a condition fails.
- C) Hard assertions are used to validate the presence of elements on the page, while soft assertions are used for validating page title and URLs.
- D) Hard assertions are only used in Java, while soft assertions are used in other programming languages supported by Selenium.

STF3-3 (K2) Understand navigation on web browsers

18. You are automating a test for a website using Selenium 4 that needs to rely on the browser's navigation history. The test needs to follow these steps:

1. Navigate to the homepage.
2. Click on a link to go to the contact page.
3. After interacting with the contact page, go back to the homepage.
4. Finally, navigate forward to the contact page again.

Which of the following sequences BEST perform the navigation based on the above requirements?

A) `driver.get("homepage_URL"), driver.get("contact_URL"), driver.get("homepage_URL"), driver.get("contact_URL").`

B) `driver.get("homepage_URL"), driver.back(), driver.get("contact_URL"), driver.forward().`

C) `driver.get("homepage_URL"), driver.navigate().back(), driver.navigate().forward(), driver.get("contact_URL").`

D) `driver.get("homepage_URL"), driver.navigate().to("contact_URL"), driver.navigate().back(), driver.navigate().to("contact_URL").`

STF3-4 (K3) Use WebDriver commands to change window / tab context in web browsers

19. In Selenium 4, you are automating a scenario where a button click opens a new browser tab. After performing actions on the new tab, you need to switch between the original tab and the new one. What is the correct approach for handling tab and window switching in Selenium 4?

A) Use a method to retrieve all open window handles, then switch between the windows using the respective window handle.

B) Use a specific command to refer to the first tab as "tab1" and the second as "tab2," then switch between them using these labels.

C) Open a new tab using a window command and switch to it directly, without the need to manage window handles.

D) Close all open windows except the first one, and the remaining window will automatically become the active window.

STF3-5 (K3) Use WebDriver commands to capture screenshots of web pages

20. You are automating a web test in Selenium 4 and need to capture a screenshot when a specific error message is displayed on the webpage. However, the error message might appear at any point during the execution of the test. You want to ensure that a screenshot is captured at the moment the error appears and is saved to a specific location. Which of the following is the best strategy for achieving this in Selenium 4?

- A) Periodically check for the visibility of the error message and trigger the screenshot capture as soon as it appears, saving it to a predefined folder.
- B) Capture a screenshot before starting the test and manually check for the error message in the saved image after test execution.
- C) Capture a screenshot at the start of the test and only if an error message appears, save the screenshot at that point, overriding any previously saved screenshots.
- D) Wait for the error message to appear using an explicit wait, and then take a screenshot only after confirming the error message is visible, saving it with a timestamp to avoid overwriting.

STF3-6 (K4) Differentiate between various strategies to locate GUI elements

21. Consider the following HTML snippet from a webpage:

```
<div class="product-list">
  <div class="product-item" id="product1">
    <h2 class="product-title">Product A</h2>
    <button class="buy-btn" data-product-id="1">Buy Now</button>
  </div>
  <div class="product-item" id="product2">
    <h2 class="product-title">Product B</h2>
    <button class="buy-btn" data-product-id="2">Buy Now</button>
  </div>
</div>
```

Which locator strategy would be MOST effective for identifying the "Buy Now" button for Product A in this scenario?

- A) Use XPath to target the <button> element by its index and position within the product-list class.
- B) Use id="product1" to target the <div> element, and then use cssSelector to locate the button within that div.
- C) Use cssSelector to locate the button element by its class buy-btn and the data-product-id="1" attribute.

D) Use XPath to target the button element by its class buy-btn and inner text "Buy Now" for all buttons.

STF3-7 (K3) Use WebDriver commands to get state of GUI elements

22. You are automating a web application. You need to check the state of a button on the page. The button might be in one of three states: enabled, disabled, or hidden. Which combination of properties would be the most effective to determine the button's state?

A) Check if the button has any text content (non-empty), check if its background color is lighter, and verify if the button is positioned on the page.

B) Check if the button is visible in the page layout, ensure it has an enabled state based on its visual styling, and verify that it is not in a disabled state.

C) Check if the button has a non-empty value in the href attribute, validate that it is not being overlapped by other elements, and ensure the button is focused.

D) Check if the button's parent container is visible, verify that the button's text is static, and check for the presence of any JavaScript event listeners.

STF3-8 (K3) Use WebDriver commands to interact with GUI elements

23. Which of the below BEST describes the Send Keys method on Selenium?

A) The Send Keys method requires no parameters.

B) The Send Keys method can only be used after the clear method is executed.

C) One parameter used by the Send Keys method is of float data type.

D) The Send Keys method requires two parameters to be executed.

STF3-9 (K3) Use WebDriver commands to interact with user prompts in web browsers

24. Which of the following is TRUE for a web browser alert interaction using Selenium 4?

A) An alert can be dismissed using the cancel () method.

B) An alert can only be accepted as it cannot be dismissed using Selenium 4.

C) Selenium 4 cannot interact with an alert as the method has been deprecated.

D) To interact with an alert, the automation context needs to be switched.

STF3-10 (K2) Understand the new features of Selenium

25. Which of the following statements about Selenium 4's new features is NOT true?

- A) Selenium 4 introduces a new Grid architecture that supports distributed testing.
- B) The new Relative Locators feature in Selenium 4 allows elements to be located in proximity to other elements, such as to the left, right, above, or below.
- C) Selenium 4 removes the support for JavaScriptExecutor in favor of a new API for executing JavaScript directly from WebDriver commands.
- D) Selenium 4 introduces the W3C WebDriver standard, which ensures better cross-browser compatibility and consistency in WebDriver commands.

STF3-11 (K1) Remember the different locators used by Selenium

26. Which of the following is NOT a valid locator strategy introduced in Selenium 4?

- A) By.linkText
- B) By.XPath
- C) By.id
- D) By.ancestor

STF3-2 (K3) Use hard and soft assertions

27. You are writing test scripts for a web application, and you use hard assertions to verify expected outcomes. Consider the following snippets of code in a test framework (both codes are equivalent):

```
In Java:
public void testLogin() {
    driver.get("https://example.com/login");
    WebElement usernameField =
driver.findElement(By.id("username"));
    WebElement passwordField =
driver.findElement(By.id("password"));

    usernameField.sendKeys("testuser");
    passwordField.sendKeys("password123");

    WebElement loginButton = driver.findElement(By.id("login"));
    loginButton.click()
    assertTrue(driver.getCurrentUrl().contains("dashboard"));
}
```

```
In Python:
def test_login(self): driver = webdriver.Chrome()
driver.get("https://example.com/login")
username_field = driver.find_element_by_id("username")
password_field = driver.find_element_by_id("password")
username_field.send_keys("testuser")
password_field.send_keys("password123")
login_button = driver.find_element_by_id("login")
login_button.click()
self.assertTrue("dashboard" in driver.current_url) driver.quit()
```

Which of the following statements MOST accurately describes the effect of using the assertion

(assertTrue or self.assertTrue) in this scenario?

- A) The test will continue to execute even if the assertion fails, allowing further checks to be made.
- B) If the assertion fails, the test will immediately stop executing, and no further steps will be performed.
- C) The assertion will automatically retry the verification until it passes or times out.
- D) The assertion will allow the test to proceed, but it will mark the test as failed in the final report.

STF3-3 (K2) Understand navigation on web browsers

28. In Selenium 4, which of the following methods is used to navigate the browser to a specific URL?

- a) driver.open(url)
- b) driver.get(url)
- c) driver.load(url)
- d) driver.goTo(url)

STF3-6 (K4) Differentiate between various strategies to locate GUI elements

29. In Selenium 4, relative locators have been introduced to enhance the flexibility and robustness of element identification based on their visual relationship with other elements on the page. Given this feature, which of the following scenarios would benefit the most from using relative locators, and why?

- a) Locating an element based on its static attributes like id, class, or name
- b) Identifying a dynamically positioned "Next" button that always appears directly below a "Previous" button, regardless of screen size
- c) Finding an element with a fixed href value in a consistent, non-changing URL
- d) Locating a form field based on its label tag for accessibility reasons

STF3-8 (K3) Use WebDriver commands to interact with GUI elements

30. In Selenium, the `get_attribute(String)` method is often used to retrieve certain attributes of web elements. Which of the following reasons best explains why you would use this method in your automation script?

- A) To simulate user interactions with web elements, such as clicking a button.
- B) To retrieve dynamic values from web elements, such as the value or checked state, without altering the element.
- C) To change the visual appearance of a web element during the test.
- D) To submit forms and navigate to different pages.

STF4-1 (K2) Understand which factors support and affect maintainability of test scripts

31. What is the main challenge when trying to increase the logic of automated test scripts?

- A) Automated test scripts can always replicate human judgment without errors.
- B) Increased complexity in automated scripts leads to a higher likelihood of failures.
- C) Automation engineers should avoid coding any waiting mechanisms in scripts.
- D) Test scripts become less maintainable as logic is added to the framework.

STF4-2 (K3) Use appropriate wait mechanisms

32. When designing automated tests with Selenium, which of the following best practices ensures that the test scripts handle timing issues effectively without causing unnecessary delays or false positives?

- A) Always use the `sleep()` method to pause the execution for a fixed amount of time before each action.
- B) Use implicit wait for all actions, regardless of their expected timing, to ensure synchronization.
- C) Use explicit wait to wait for a specific condition to be met before performing the next action.
- D) Rely on the default wait time set by the browser to avoid writing additional code.

STF4-3 (K4) Analyze GUI of SUT and use Page Objects to make its abstractions

33. Given a SUT with a complex form that includes multiple input fields, dropdowns, and buttons, you are tasked with creating a Page Object to interact with this form. Which of the following strategies would best align with the Page Object Pattern to ensure your automated tests remain maintainable and scalable?

- A) Create a single Page Object class that directly interacts with all elements in the form, including form validation and business logic, and exposes them as test steps.
- B) Create multiple Page Object classes, each one representing a specific section of the form, such as "Personal Information" and "Payment Details," and encapsulate only the UI interaction logic, avoiding any business assertions or validation logic within the Page Objects.
- C) Create a single Page Object class that includes both UI interactions and validation logic to ensure all business rules are applied during test execution.
- D) Create multiple Page Object classes, each representing an individual element of the form (e.g., one for the name field, another for the email field), and directly expose the Selenium WebDriver methods to the test scripts.

STF4-4 (K4) Analyze test scripts and apply Keyword Driven Testing principles to building test scripts

34. In keyword-driven testing, which of the following is the primary benefit of using high-level keywords such as "Login" and "Search" in your test scripts?

- A) They allow direct interaction with the System Under Test (SUT) without needing to define any actions or keywords.
- B) They help in reducing script complexity by abstracting low-level actions like "Click" or "EnterText" into meaningful business operations, making the script more readable and easier to maintain.
- C) They eliminate the need for external data files, as the entire test script is embedded with all necessary data.
- D) They perform the same function as low-level keywords but without requiring the automation tool to execute any WebDriver commands.

STF4-1 (K2) Understand which factors support and affect the maintainability of test scripts

35. Which of the following practices helps improve the long-term maintainability of test scripts?

- A) Using absolute paths to locate elements in the HTML structure
- B) Writing descriptive names for variables, functions, and constants
- C) Avoiding the use of comments to keep the script concise
- D) Rewriting the test scripts from scratch after each test run

STF5-1 (K2) Understand the advantages and disadvantages of headless automation testing

36. Which of the following is a consideration when using headless browser testing with Selenium WebDriver?

- A) Headless browsers provide a visible user interface for easy debugging.
- B) Headless testing may make debugging more difficult due to the lack of a GUI.
- C) Tests run faster but always simulate user activity with perfect accuracy.
- D) Headless browser testing is not compatible with any CI/CD pipeline.

STF5-2 (K2) understands how machine learning can help in reducing false positives and maintenance effort

37. How can machine learning help reduce false positives and the maintenance effort in test automation?

- A) By automatically rewriting the test scripts whenever the SUT changes.
- B) By learning from test executions and suggesting alternative locators to handle minor changes in the SUT.
- C) By eliminating the need for regular updates to the automation framework.
- D) By manually updating the test data used in test cases.

STF5-3 (K2) Understand test parallelism and its advantages

38. Which of the following is a potential issue when running performance tests using Selenium in parallel on a single machine?

- A) Reduced test execution speed due to multiple threads using separate machines.
- B) Increased likelihood of deadlocks or thread blocking, affecting test accuracy.
- C) The probe effect is eliminated when using parallel testing with Selenium Grid.
- D) Resource consumption is minimized when running multiple tests concurrently on the same browser.

Answer:

- B) Increased likelihood of deadlocks or thread blocking, affecting test accuracy.

STF5-1 (K2) Understand the advantages and disadvantages of headless automation testing

39. What is headless automation in the context of Selenium?

- A) Running tests without opening the browser window or GUI
- B) Running tests on a browser that requires no internet connection
- C) Running tests in the background while the user interacts with the web page
- D) Running tests only on mobile devices

STF5-3 (K2) Understand test parallelism and its advantages

40. What is the recommended way to minimize the probe effect when using Selenium for performance testing?

- A) Use a single machine to simulate all users during the tests.
- B) Execute tests using only one browser instance to reduce system load.
- C) Use Selenium Grid to run tests on multiple devices concurrently and in headless mode.
- D) Run tests during non-peak hours to avoid system overload.