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| 1)(a)Selenium? |
|  | Selenium is a free (open-source) automated testing framework used to validate web applications across different browsers and platforms. |
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|  | (b)Different Selenium components? |
|  | Selenium has four major components – |
|  | Selenium IDE |
|  | Selenium RC |
|  | Selenium Web driver |
|  | Selenium GRID |
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|  | (c)Explain about Selenium Webdriver? |
|  | Selenium WebDriver is a collection of open source APIs which are used to automate the testing of a web application. |
|  | It supports various browsers such as Firefox,Ms Edge, Chrome, IE,etc,. |
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|  | 2) How does Selenium communicate with the Web browsers? |
|  | To communicate between server and client (browser), selenium web driver uses JSON. |
|  | JSON Wire Protocol is a REST API that transfers the information between HTTP servers. Each Browser Driver has its own HTTP server. |
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|  | 3)What are the locators available to find an element using Selenium? |
|  | -> By ID: find\_element\_by\_id |
|  | -> By class name: find\_element\_by\_class\_name |
|  | -> By name : find\_element\_by\_name |
|  | -> By DOM xpath: find\_element\_by\_xpath |
|  | -> By link text: find\_element\_by\_link\_text |
|  | -> By partial link text: find\_element\_by\_partial\_link\_text |
|  | -> By HTML tag name: find\_element\_by\_tag\_name |
|  | -> By CSS selector |
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|  | 4) Why ID is preferable than X-Path? |
|  | Because ID is considered as unique key so there cannot be more than 1 elements, for same ID while Xpath is created using relative path/position of elements, |
|  | so there can be cases when we can get 2 or more elements for same Xpath. |
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|  | 5)How to select value in dropdown? |
|  | \*selectByVisibleText |
|  | \*selectByIndex |
|  | \*selectByValue |
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|  | 6) What is the difference between Absolute X-Path and Relative X-Path? |
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|  | Absolute X-Path: |
|  | It uses Complete path from the Root Element to the desire element. |
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|  | Relative X-path: |
|  | You can simply start by referencing the element you want and go from there. |
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|  | 7) How to verify if the given check box is checked or not? |
|  | \*Use isSelected() |
|  | \*It returns in boolean value |
|  | \*Returns True if it is checked |
|  | \*Returns False if it is unchecked |
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|  | 8)Difference between System.setProperty and WebDriverManager? |
|  | WebDriverManager: |
|  | \*WebDriverManager automates the browser setup in the Selenium code. |
|  | \*By default, it downloads the latest version of the browser binary and also the binary for the appropriate platform. |
|  | \*We have to add the dependency for WebDriverManager in case the code belongs to Maven or Gradle environment. |
|  | System.setProperty: |
|  | \*It is used to configure the browser driver path. |
|  | \*The Selenium client library communicates with the ChromeDriver via the JSON Wire Protocol. |
|  | \*The Chrome browser driver acts like a link between the Selenium implementation code and the Chrome browser. |
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|  | 9) Write the syntax for preceding and following x-paths? |
|  | Following xpath: |
|  | //label[text()='vijay']//following-sibling::input |
|  | Preceeding xpath: |
|  | //input[text='vijay']//preceeding-sibling::label |
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|  | 10) How to get an attribute value using Selenium WebDriver? |
|  | To get the attribute value using selenium webdriver, we can use 'element. getAttribute(attributeName)'. |
|  | If we try to get the attribute value that doesn't exists for the tag, it will return null value. |