1) Selenium Introduction:

* Platform: Windows, Mac OS, Linux and Solaris.
* Browser:  Java, C#, Perl, Python, Ruby and PHP.
* Programming language: EDGE, IE, Chrome, Firefox and safari.

2) Advantages & Disadvantages of Selenium:

* Advantages:
* **Selenium is an Open Source Software.**
* **Selenium supports various programming languages to write programs.**
* **Selenium supports various operating systems and browsers.**
* **Selenium supports Parallel Test Execution.**
* **Selenium uses less Hardware resources.**
* Disadvantages:
* **No reliable Technical Support from anybody.**
* **It supports Web based applications only.**
* **Difficult to use, takes more time to create Test cases.**
* **Limited support for Image Testing.**
* **New features may not work properly.**

3) What are the different Selenium components?

* Selenium Integrated Development Environment (IDE)
* Selenium Remote Control (RC)
* WebDriver
* Selenium Grid

4) What are the different types of locators in Selenium? Give one example for each

* By CSS ID: find\_element\_by\_id

from selenium import webdriver

driver = webdriver.Chrome('./chromedriver')

driver.get("https://www.python.org")

search\_bar = driver.find\_element\_by\_id("id-search-field")

* By CSS class name: find\_element\_by\_class\_name

from selenium import webdriver

driver = webdriver.Chrome('./chromedriver')

driver.get("https://www.python.org")

first\_search\_bar = driver.find\_element\_by\_class\_name("id-class-name")

* By name attribute: find\_element\_by\_name

<form id="loginForm">

<input name="email" type="text" value="Business Email" />

</form>

email\_input = driver.find\_element\_by\_name("email")

* By DOM structure or xpath: find\_element\_by\_xpath

< form id="loginForm">

<input name="name" type="text" value="First Name" />

</form>

first\_name = driver.find\_element\_by\_xpath("//form[@id='loginForm']/input[1]")

* By link text: find\_element\_by\_link\_text

click\_here\_link = driver.find\_element\_by\_link\_text('Click Here')

* By HTML tag name: find\_element\_by\_tag\_name

page\_heading = driver.find\_element\_by\_tag\_name('h1')

5) What is the difference between assert and verify commands?

* Assert: Assert command checks if the given condition is true or false. If the condition is true, the program control will execute the next phase of testing, and if the condition is false, execution will stop and nothing will be executed.
* Verify: Verify command also checks if the given condition is true or false. It doesn't halts program execution i.e. any failure during verification would not stop the execution and all the test phases would be executed.

6) What is a framework?

Selenium framework is a code structure for making code maintenance simpler, and code readability better. A framework involves breaking the entire code into smaller pieces of code, which test a particular functionality.

7) What are the advantages of Automation framework?

* Vastly Increases Your Test Coverage
* Automation Does What Manual Testing Cannot
* Automated QA Testing Helps Developers and Testers
* Testing Improves Accuracy
* Unique Programmability and Shelf Life
* Vastly Increases Your Test Coverage
* Consistency and Reliable
* Upgradation and Reusability
* Efficient Testing

8) What is Junit?

JUnit is a unit testing framework for Java programming language. JUnit has been important in the development of test-driven development, and is one of a family of unit testing frameworks collectively known as xUnit, that originated with JUnit.

9) What are Junit annotations?

Annotation is a special form of syntactic meta-data that can be added to[Java](https://www.guru99.com/java-tutorial.html)source code for better code readability and structure. Variables, parameters, packages, methods and classes can be annotated.

Some of the JUnit annotations which can be useful are Before, After, BeforeClass, AfterClass, Ignore, RunWith and Test