Robot Framework with Python

Module 1: Introduction to Python

- Brief history and popularity
- Setting up Python
- Using Python's interactive mode (REPL)
- Variables and data types
- Conditional statements (if, elif, else)
- Loops (for, while)
- Break and continue statements
- Defining and calling functions
- Parameters and return values
- Scope and local vs. global variables
- Creating and using classes

Module 2: Robot Framework

- Robot Framework Key features and Advantages
- Installing Robot Framework
- Required dependencies
- Setting up the environment
- Introduction to Robot Framework and Key Features
- Running a sample Test case
- Conditional Execution and Loops
- Looping constructs for repetitive tasks
- Keywords and test data
- Test case structure and execution
- Variables and Data-Driven Testing
- Data-driven testing with test data
- External data sources (e.g., CSV, Excel)
- Database Driven Testing (MySQL Server)
- Custom Keywords
- Keywords and Libraries

Module 3: Test Suites

- Creating test suites
- Handling Test Suites
- Test setup and teardown
- Test execution and reporting
- Working with Test Data

Module 4: Web Elements

- Introduction to web testing with Robot Framework
- Installing SeleniumLibrary
- Configuring the WebDriver for web testing (e.g., Chrome, Firefox)
- Installing SeleniumLibrary

- Configuring the WebDriver for web testing (e.g., Chrome, Firefox)
- Clicking buttons and links
- Filling out forms and input fields
- Selecting options from drop-down menus
- Checking element visibility and presence
- Verifying element text and attributes
- Asserting element conditions and states
- Handling JavaScript alerts and confirmations
- Interacting with modal dialogs
- Using test data from external sources for web testing
- Data-driven testing with web elements
- Introduction to the Page Object Model pattern
- Organizing test scripts with POM

Module 5: API Testing

- Overview of API testing
- Introduction to Robot Framework for API testing
- Understanding the Request library for API testing
- Installing the Requests library
- Configuring the test environment for API testing
- Understanding HTTP methods (GET, POST, PUT, DELETE, etc.)
- Working with status codes and response headers
- Handling request and response payloads (JSON, XML)
- Sending GET requests with query parameters
- Sending POST requests with JSON payloads
- Handling authentication in API requests
- Testing APIs with authentication (e.g., Basic Auth, OAuth)
- Handling token-based authentication
- Introduction to API mocking and stubbing
- Using third-party tools for API simulation
- Organizing API test suites and test cases
- Utilizing tags and test case setup/teardown for API testing
- Writing maintainable and scalable API test cases
- Using keyword-driven approaches for reusability

Module 6: Conclusion

- Recap of Key Concepts
- Resources for Further Learning