AUTOMATED SOFTWARE TESTING
(502072)

Lab 5 – Table
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1. **GOALS:** This lab helps students to
   - Practise automation testing of web applications using.
   - Be able to write test cases with Selenium Library – Robot Framework.
   - Understand various functionalities of Selenium Library.
   - Be able to work with various web elements.
2. **OBJECTIVES**
   - Install automated testing environment with Selenium/Robot Framework.
   - Install web drivers.
   - Write and execute test cases.
   - Work with table.
   - Navigation.
3. **CONTENT**

3.1 PREREQUISITES

To practise complete this assignment, students must prepare to install the required libraries below which are also presented in Lab3. More importantly, students should have a basic understanding of testing concepts.

To practise complete this assignment, students must prepare to install the following libraries and packages. More importantly, students should have a basic understanding of testing concepts.

- Python
  Go to python official site − https://www.python.org/downloads/ and download the latest version or the prior version of python as per your operating system.
  Remember to set PATH correctly to use Python after installation.

- Pip
  PIP gets installed along with python. Run **`*pip --version*`** to check pip version

- Robot Framework
  Use pip – python package manager to install the robot framework and the command for it is as follows

  `pip install robotframework`
  `robot --version` to check robot framework version.

- wxPython for Ride IDE
  wxPython is needed for Robot Framework Ride, which is an IDE for Robot Framework.

  Windows:
  https://sourceforge.net/projects/wxpython/files/wxPython/2.8.12.1/

  Linux: Install wxPython with the package manager of OS.

- Selenium library (https://github.com/robotframework/SeleniumLibrary/)
  `pip install --upgrade robotframework-seleniumlibrary`

- Selenium webdriver
  (https://www.selenium.dev/documentation/webdriver/)
  `pip install --upgrade robotframework-seleniumlibrary`

- Robot Framework Ride
  Use pip command to install Ride IDE.

  `pip install robotframework-ride`.

To open Ride IDE, run ***`ride.py`***

3.2 THEORY

Student must review the theory of Robot Framework and Selenium Library which are presented in Lab2 and Lab3.

3.3 PRACTICE

For testing, it becomes important to understand how to interact with the browser and locate the html elements. It is very easy to work with input fields with robot framework. In this lab, we will learn how to work with form fields namely textbox, radio button, dropdown, checkbox, text area etc using Selenium Library. To work with form field elements, we need the locator, which is the main unique identifier for that the fields and it can be id, name, class, etc.

Let create a new project and import Selenium Library properly.

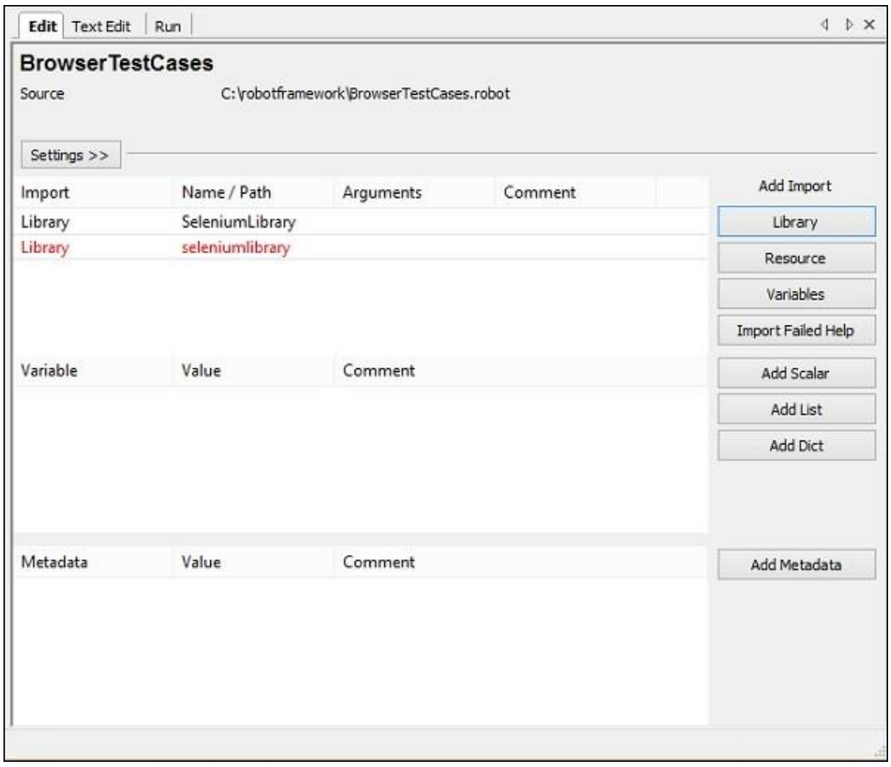


Figure 1 - Valid/invalid library import

The name given has to match with the name of the folder installed in site-packages. In case the names do not match, the library name will be in red as shown above. Library import in red is as good as the library does not exist inside python. Now, we have completed selenium library import.

The official document page of Robot Framework provides users with detalied explanation and demo, students should refer to the page during the time working with this lab.

https://docs.robotframework.org/docs

https://robotframework.org/robotframework/latest/RobotFrameworkUserGuide.html#introduction

https://robotframework.org/SeleniumLibrary/SeleniumLibrary.html

Locating elements:

https://selenium-python.readthedocs.io/locating-elements.html

Chrome/Edge extensions for locating Xpath:

https://www.browserbear.com/blog/9-best-chrome-extensions-to-find-xpath-for-selenium-and-other-automation-tools/

Let review and research about locators for form fields element to complete the assignment.

Assignment 1: Open browser

- URL to open: https://practice-automation.com/tables/

Assignment 2: Verify data in tables

- Using methods to get locators of html elements mentioned above to get data from cells of table and verify if data is valid.

Tables

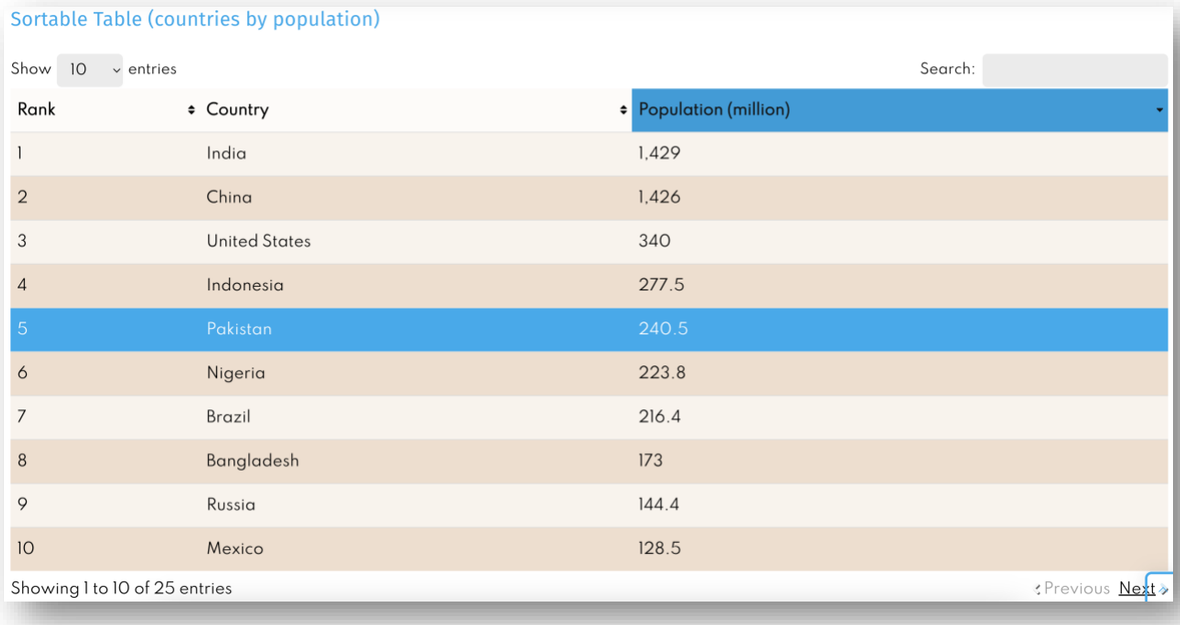
Home › Tables

Simple Table (item prices)

Item	Price
Oranges	$3.99
Laptop	$1200.00
Marbles	$1.25

Figure 2 – Table 1

- Take some actions with the table 2 and verify data
    - Change the number of entries shown and verify
    - Enter some search input and verify
    - Click sortable header on “Country” and “Population” to sort data and verify
    - Click “Next” and “Previous” and verify
- Resize the browser with 800x600 and and repeat the above actions.



Sortable Table (countries by population)

Show 10 entries Search:

Rank	Country	Population (million)
1	India	1,429
2	China	1,426
3	United States	340
4	Indonesia	277.5
5	Pakistan	240.5
6	Nigeria	223.8
7	Brazil	216.4
8	Bangladesh	173
9	Russia	144.4
10	Mexico	128.5

Showing 1 to 10 of 25 entries Previous Next

Figure 3 – Table 2

4. REFERENCES

[1] Daich, G., Price, G., Ragland, B., Dawood, M. "Software Test Technologies Report." STSC, Hill Air Force Base, Utah, August 1994.

[2] https://robotframework.org/

[3] https://practice-automation.com/form-fields/

[4] https://robotframework.org/SeleniumLibrary/SeleniumLibrary.html

5. REVISION HISTORY

Revision	Date	Author(s)	Description
1.0	Dec 2023	Nguyen Thanh Quan (MSc)	Created