

Automation Test Suite

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Why this testing suite?

- This project serves as a comprehensive solution for all automation needs, including web testing, web scraping, monitoring, and data population, using straightforward commands.
- It offers flexibility in maintaining data and continuity between different tests for extended automation scenarios through the use of Excel workbooks.
- Excel simplifies data flow visualization, enabling users to easily comprehend and modify tests.
- Beyond the predefined columns, additional columns can be utilized for advanced calculations which enables complex structures and tests to be created within a single workbook.
- The suite is designed to simplify test and flow management, making it highly accessible for users with no coding experience.
- The source code can be easily modified with minimal steps, allowing for quick customization.
- Data is generated sequentially in log and JSON formats, making it easy to reuse.
- The upcoming version will include support for Selenium and Appium, enabling the same Excel sheet or workbook to be used for testing both web and mobile applications simultaneously.
- Future plans include integration with Pytest and AI, offering endless possibilities for further feature exploration.

Will this work for me?

- This suite can cater from simplest to highly complex programs. Features to add short code snippets in excel itself is inbuilt. Any user with minimal knowledge of Python can use the feature as entire automation is handled by the application.
- New features are being developed to minimise coding requirement for user and maximise flexibility & functionality in excel sheet.

Tech?

- The code engages with browser automation using Playwright. Possibilities are being explored to support Selenium, API testing and mobile testing(Appium) using the same excel format.

Building the project

1) Clone the project to your desired directory (If you have a Github account which has access to your device)

using SSH: `git clone git@github.com:BoneyGupta/Webscraping-Suite.git`

or **Code > Download Zip** from <https://github.com/BoneyGupta/Webscraping-Suite> and unzip it in desired directory.

2) Adding the required libraries

Automatic Process

- Open the Project Folder > Installer > **setup.bat** (Right click and **Run as administrator**)

Manual Process

Prerequisites:

- **Python:** Ensure you have Python 3.7 or later installed on your system. You can check your Python version by running `python --version` in your terminal or command prompt.
- **pip:** Make sure pip, the Python package installer, is also installed. If not, you can install it by following the instructions for your operating system:
 - > Windows: Download and run the get-pip.py script from <https://bootstrap.pypa.io/get-pip.py>.
 - > macOS/Linux: Open your terminal and run `python3 -m pip install --upgrade pip`.

Installation:

- Open your terminal or command prompt.
- Install Playwright using pip: `pip install playwright`
- Install the Playwright browser binaries: `playwright install`
- Install openpyxl: `pip install openpyxl`

3) Add Chrome Application folder to your directory (If cdp is required) [OPTIONAL]

(cdp is required when we want to work with webapps which have complex logins setups like captcha or like whatsapp or facebook login.)

Automatic Process

- Run the **Create-New-Chrome-for-Logged-Sessions.bat** file from the project directory.
- Wait for the browser to open and in the running browser, login to the desired website.

Manual Process

- Install Chrome Browser on your device.
- Copy the folder `C:\Program Files\Google\Chrome\Application` and add it to your directory.
- Open command line runner and run the command `chrome.exe --remote-debugging-port=9988 --user-data-dir=..\chromedata`
- Wait for the browser to open and in the running browser login to the desired website.

If you want to open the browser in debug mode later, click on **Open-Logged-in-Chrome.bat** file in the project directory.

4) Create the Test file

Automatic Process

- Go to the shortcut created on Desktop and open **New-Test.bat**. Make changes in the Test.xlsx and save. In case you already have a Test.xlsx file, click on the **Open-Current-Test-Sheet.bat** file to open Test.xlsx. To archive the test sheet open **Save-Current-Test-Sheet-to-Archives.bat**.

Manual Process

- Open the **Template.xlsx** workbook in excel folder and make changes (Steps given in the next sheets) according to your requirement. Save the altered Template.xlsx as Test.xlsx in excel folder.

5) Run the program.

Automatic Process

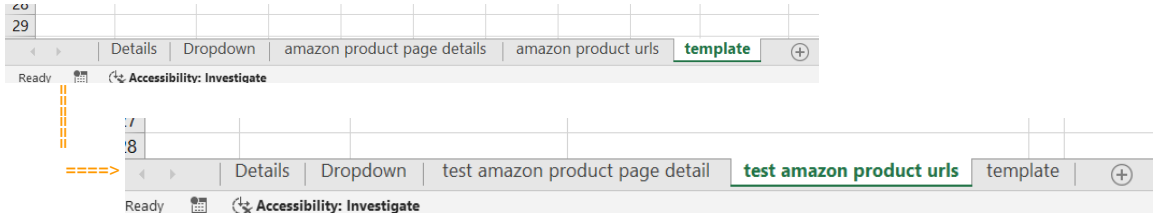
- Run the program by double clicking **Run-ATS.bat** file in the Desktop shortcut folder.

Manual Process

- Open Command Prompt from Windows Start and type:
 - 1) `cd C:\path\to\your\project\directory` (Change directory to you project directory)
 - 2) `python main.py` (Run the project using python)

Step 1: First steps to start the process

- 1) Go the the automation testing suite directory >> open excel directory
- 2) Open the Test.xlsx for your first program(you can refer to 'Template.xlsx' and 'Automation Test Suite Commands.xlsx')
Presently, only the excel file named as 'Test.xlsx' will be run for automation.
- 3) A pre-filled sheets will be present for your aide.
- 4) There are three required sheets(Details, Sheet having 'test' in its name and Dropdown) for the execution of test cases.
Update the name of all the sheets which are up for testing with 'test' as prefix.



All the sheets and fields are described with the help of test case: amazon product page details

Step 2: Details Entry

Open the 'Details' sheet in 'Test.xlsx'

Test Name	Amazon Test
Browser	Chrome
Website	https://www.amazon.in
Headless	TRUE
cdp	TRUE

Field entry options:

Any alphanumeric value
Chrome, Firefox, Edge
Complete website url
TRUE, FALSE
TRUE, FALSE

Description:

Declares the name of the Test
Select a browser
Website names should be complete with https:// or similar prefix
Headless testing is a testing which allows the browser to run in the backgroud without GUI.
cdp is required when we want to work with already logged on browser with wesites which requires login or captcha. Do not support Headless testing

Step 3: Create a test Sheet

Create a new sheet with the below columns and add 'test' prefix if you want to run it as a test.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	1	2	3	4	5	6	7	8	13	9	10	11	12	15	16	17
2	Element ID	Description	Execute	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Wait(ms)	URL	File Path	Conditional Key	Conditional Statement dictionary: dict={}
3																
4																
5																

*Next steps might be optional depending on the test.

- 1) Fill in the Element ID(User can add any alphanumeric value depending on their organization)
- 2) Performing a basic action
 - >> Add the locator of the element
 - >> Add nth (in case of multiple elements with same locator)
 - >> Add the action you want to perform (Actions can be viewed from Dropdown sheet)
 - >> Add the value (Search Item name) you wish to pass through the action
 - >> add a wait timer (default is 3000 millisecond) which waits for the element to be interactable.
 Now we can open [amazon.in](https://www.amazon.in) go to the search box, fill up 'smartphone' and click search.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	1	2	3	4	5	6	7	8	13	9	10	11	12	15	
2	Element ID	Description	Execute	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Wait(ms)	URL	File Path	Conditional Key
3	2	Fill the Search Box in amazon.in		//input[@id="twotabse		fill	Smartphone					30000			
4	3	Click Search		//input[@id='nav-sear		click						15000			
5															

- 3) Add an assertion
 - >> hard assertion means the test will terminate on error
 - >> soft means the test will continue with logging the case as failed
 - >> if assertion is left blank, in case of any error, the test will terminate.
 - >> fill the assert type, the assert condition and the assert value if required.
 In element id 2 we are checking for the elements to be attached to the DOM.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	1	2	3	4	5	6	7	8	13	9	10	11	12	15	
2	ID	Description	Execute	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Wait(ms)	URL	File Path	Conditional Key
3	2	Enter Search Value		//input[@id="twotabs		fill	Smartphone		soft	to be attached		30000			
4	3	Click Search		//input[@id='nav-sear		click			hard	to be visible		15000			

- 4) Add a loop

There are 3 types of looping sequence we can use

Loop Type 1 : Simple Loop									Description
Description	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	This is a simple loop. The loop will iterate through all the elements in the element list created through the given locator. The key is given to store loop data in the reference loop dictionary and data dictionary.
start loop	locator							key	
...test rows goes here...									
end loop									

Loop Type 2 : end case									Description
Description	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Same as the above but the loop may end prematurely if the end loop assertion fails
start loop	locator							key	
...test rows goes here...									
end loop	Locator				soft/hard	condition	assert value		

Loop Type 3 : end case continuous									Description The loop can continue endlessly until the end loop assertion fails. The length of element list does not matter in this loop type
Description	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	
start loop	locator							key	
...test rows goes here...									
end loop continuous	locator				soft/hard	condition	assert value		

Step 4: Get the results

Run the bat files present in the Automation Test Suite shortcut to get the results and archives:

- **Get-Reports.bat** Get the Reports generated in the test run.
- **Get-HTML-Pages.bat** Get the HTML pages created by the test run.
- **Excel-Archives.bat** Check out all the test Excel Workbooks archived.

Reports

There are 5 documents of results that are extracted from the test.

- **Code Progression (code_prog.log)** Logs of the code that is run sequentially due to our test.
- **Logs (logs.log)** Logs of the test run.
- **Sequential Data (data.json)** Data in the form of sequence. We can get the flow of the code using this json along with the retrieved data
- **Reference Data (reference_data.json)** We can obtain all the data retrieved in the form of json
- **Reference Loop Data (ref_loop_data.json)** We can get the data retrived in each loop

HTML Pages

- All the html pages created during our test will be present here.

Excel Archives

- All the test sheets archived can be accessed from this folder

- > Tasks which require python knowlege are given in this pdf in the Dev sheet
- > There are other functionalities and data entry method which will enable user to perform other tasks, the methods of which are given in details in the next sheets.

Dropdowns

Description	Locator	nth	Action (dropdown/dd)	Value	S V K	Wait(ms)	URL	File Path	Assert (dd)	Condition (dropdown)	Assert Value
start loop			click						Hard	to be attached	
end loop			fill	value					Soft	to be checked	
end loop continuous			press	value					hard	to be disabled	
			double click						soft	to be editable	
			focus							to be empty	
			hover							to be enabled	
			select option	value						to be focused	
			select options	"value1","value2"						to be hidden	
			text content		key					to be in viewport	
			inner text		key					to be visible	
			get attribute		key					to contain text	partial_text
			is checked		key					to have accessible description	value
			is disabled		key					to have accessible name	value
			is visible		key					to have attribute	"attribute", "expected_value"
			is hidden		key					to have class	class
			is enabled		key					to have count	count
			count	value	key					to have css	css
			all inner texts		key					to have id	id
			all text contents		key					to have js property	"property", "expected_value"
			open in new tab				url			to have role	role
			parent tab							to have text	text
			close tab							to have value	value
			loop go to new tab							to have values	"value1","value2"
			loop open link							to have title	title
			open link				url			to have url	url
			page screenshot					screenshot.png		to be ok	
			element screenshot					screenshot.png		not to be attached	
			get page url		key					not to be checked	
			loop open link in new tab							not to be disabled	
			go back							not to be editable	
			master url							not to be empty	
			fresh browser	key(which has the urls from reference dictionary)				url.html		not to be enabled	
			create html							not to be focused	
										not to be hidden	
										not to be in viewport	
										not to be visible	
										not to contain text	partial_text
										not to have accessible description	value
										not to have accessible name	value
										not to have attribute	"attribute", "expected_value"
										not to have class	class
										not to have count	count
										not to have css	css
										not to have id	id
										not to have js property	"property", "expected_value"
										not to have role	role
										not to have text	text
										not to have value	value
										not to have values	"value1","value2"
										not to have title	title
										not to have url	url
										not to be ok	

Details Data Entry	
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- Declares the name of the Test
- Select a browser
- Website names should be complete with https:// or similar prefix
- Headless testing is a testing which allows the browser to run in the background without GUI.
- cdp is required when we want to work with already logged on browser with websites which requires login or captcha. Do not support Headless testing

Functionality Not Developed Yet

Action Data Entry and Code

Description	Locator	nth	Action	Value	Stored Value Key	URL	File Path	Code
Clicks on an element.	locator	nth	click					page.locator(locator).nth(nth).click()
Fills an input element with text.	locator	nth	fill	value				page.locator(locator).nth(nth).fill(value)
Presses a specific key or combination of keys.	locator	nth	press	value				page.locator(locator).nth(nth).press(value)
Double-clicks on an element.	locator	nth	double click					page.locator(locator).nth(nth).double_click()
Sets the focus on an element.	locator	nth	focus					page.locator(locator).nth(nth).focus()
Hovers the mouse over an element.	locator	nth	hover					page.locator(locator).nth(nth).hover()
Selects a specific option from a select element.	locator	nth	select option	value				page.locator(locator).nth(nth).select_option(value)
Selects multiple options from a select element.	locator	nth	select options	"value1", "value2"				page.locator(locator).nth(nth).select_options(value)
Gets the text content of an element.	locator	nth	text content		key			data = page.locator(tr.locator).first.text_content()
Gets the inner text content of an element.	locator	nth	inner text		key			data = page.locator(locator).nth(nth).inner_text()
Gets the value of a specified attribute from an element.	locator	nth	get attribute		key			data = page.locator(locator).nth(nth).get_attribute(f"{tr.value}")
Checks if a checkbox or radio button is checked.	locator	nth	is checked		key			data = page.locator(locator).nth(nth).is_checked()
Checks if an element is disabled.	locator	nth	is disabled		key			data = page.locator(locator).nth(nth).is_disabled()
Checks if an element is visible.	locator	nth	is visible		key			data = page.locator(locator).nth(nth).is_visible()
Checks if an element is hidden.	locator	nth	is hidden		key			data = page.locator(locator).nth(nth).is_hidden()
Checks if an element is enabled.	locator	nth	is enabled		key			data = page.locator(locator).nth(nth).is_enabled()
Gets the number of matching elements.	locator	nth	count	value	key			data = page.locator(locator).nth(nth).count()
Gets the inner text of all matching elements.	locator	nth	all inner texts		key			data = page.locator(locator).nth(nth).all_inner_texts()
Gets the text content of all matching elements.	locator	nth	all text contents		key			data = page.locator(locator).nth(nth).all_text_contents()
								new_window = page.context.new_page() new_window.goto(url) new_window.bring_to_front()
Opens a link in a new tab.			open in new tab			url		
Gets the parent tab of a window.			parent tab					total_pages = page.context.pages total_pages[0].bring_to_front()
Closes the current tab.			close tab					page.close()
In a loop, it navigates to the newly opened tab.			loop new tab					
Opens a link.			open link			url		page.goto(url)
Takes a screenshot of the entire page.			page screenshot				screenshot.png	page.wait_for_load_state("load") page.screenshot(path=f"{logs.directory_path}\\pgscrnsht{time.strftime("%H%M%S")}{tr.filepath}", timeout=100000)
Takes a screenshot of a specific element.	locator	nth	element screenshot				screenshot.png	page.wait_for_load_state("load") page.locator(tr.locator).screenshot(path=f"{logs.directory_path}\\elescrnsht{time.strftime("%H%M%S")}{tr.filepath}")
Gets the current URL of the page.	locator	nth	get page url		key			data = page.url
Stores the url an row to restart the program incase of failure			master url					
Launches a new browser instance an open master url of current page			fresh browser					browser = pw.chromium.launch(headless=headless) context = browser.new_context() page = context.new_page() page.goto(master_url)
Create html file which has the links of all the uris from reference dictionary,			create html	key(which has the uris from reference dictionary)			url.html	

Wait Data Entry, Code and Exception Handling

Description	Locator	nth	Assert	Wait(ms)	Code	try/catch
Wait	locator	nth	soft	timeout	page.locator(locator).nth(nth).wait_for(timeout=timeout)	Yes
	locator		soft	timeout	page.wait_for_selector(locator, timeout=timeout)	Yes
	locator	nth		timeout	page.locator(locator).nth(nth).wait_for(timeout=timeout)	No
	locator			timeout	page.wait_for_selector(locator, timeout=timeout)	No
	locator		hard	timeout	print("No explicit waiting can be performed")	No

- The wait function can be merged with Action, Assert, Execute and Loop functions. Further details available in their respective sheets.
- This is not meant to be a standalone function but can be used as such.

Assertion Data Entry and Code

Description	Locator	nth	Assert	Condition	Assert Value	Code
The element is attached to the DOM.	locator	nth	soft/hard	to be attached		expect(page.locator(locator).nth(nth),element not present in page/dynamic element).to_be_attached()
The element is checked (for checkboxes or radio buttons).	locator	nth	soft/hard	to be checked		expect(page.locator(locator).nth(nth),element not present in page/dynamic element).to_be_checked()
The element is disabled.	locator	nth	soft/hard	to be disabled		expect(page.locator(locator).nth(nth),element is not disabled).to_be_disabled()
The element is editable (e.g., input fields).	locator	nth	soft/hard	to be editable		expect(page.locator(locator).nth(nth),element is not editable).to_be_editable()
The element's value is empty.	locator	nth	soft/hard	to be empty		expect(page.locator(locator).nth(nth),element is not empty).to_be_empty()
The element is enabled (not disabled).	locator	nth	soft/hard	to be enabled		expect(page.locator(locator).nth(nth),element is not enabled).to_be_enabled()
The element has focus.	locator	nth	soft/hard	to be focused		expect(page.locator(locator).nth(nth),element is not focused).to_be_focused()
The element is hidden (not visible).	locator	nth	soft/hard	to be hidden		expect(page.locator(locator).nth(nth),element is not hidden).to_be_hidden()
The element is partially or fully visible within the viewport.	locator	nth	soft/hard	to be in viewport		expect(page.locator(locator).nth(nth),element is not in viewport).to_be_in_viewport()
The element is visible.	locator	nth	soft/hard	to be visible		expect(page.locator(locator).nth(nth),element is not visible).to_be_visible()
The element contains the specified text.	locator	nth	soft/hard	to contain text	partial_text	expect(page.locator(locator).nth(nth),element does not contain text).to_contain_text(assert_value)
The element has an accessible description.	locator	nth	soft/hard	to have accessible description	value	expect(page.locator(locator).nth(nth),element does not have accessible description).to_have_accessible_description(assert_value)
The element has an accessible name.	locator	nth	soft/hard	to have accessible name	value	expect(page.locator(locator).nth(nth),element does not have accessible name).to_have_accessible_name(assert_value)
The element has the specified attribute.	locator	nth	soft/hard	to have attribute	"attribute","expected_value"	expect(page.locator(locator).nth(nth),element is not empty).to_have_attribute(assert_value)
The element has the specified class.	locator	nth	soft/hard	to have class	class	expect(page.locator(locator).nth(nth),element does not have class).to_have_class(assert_value)
The locator matches the specified number of elements.	locator	nth	soft/hard	to have count	count	expect(page.locator(locator).nth(nth),element does not have count).to_have_count(assert_value)
The element has the specified CSS property.	locator	nth	soft/hard	to have css	css	expect(page.locator(locator).nth(nth),element does not have css).to_have_css(assert_value)
The element has the specified ID.	locator	nth	soft/hard	to have id	id	expect(page.locator(locator).nth(nth),element does not have id).to_have_id(assert_value)
The element has the specified JavaScript property.	locator	nth	soft/hard	to have js property	"property","expected_value"	expect(page.locator(locator).nth(nth),element does not have the js properties).to_have_js_property(assert_value)
The element has the specified ARIA role.	locator	nth	soft/hard	to have role	role	expect(page.locator(locator).nth(nth),element does not have the role).to_have_role(assert_value)
The element contains text.	locator	nth	soft/hard	to have text	text	expect(page.locator(locator).nth(nth),element does not have the text).to_have_text(assert_value)
The element has the specified value.	locator	nth	soft/hard	to have value	value	expect(page.locator(locator).nth(nth),element does not have the value).to_have_value(assert_value)
The element has multiple values (e.g., for select elements).	locator	nth	soft/hard	to have values	"value1","value2"	expect(page.locator(locator).nth(nth),element do not have the values).to_have_values([assert_value])
The element has the specified title attribute.			soft/hard	to have title	title	expect(page,page does not have title).to_have_title(assert_value)
The element has the specified URL (e.g., for links).			soft/hard	to have url	url	expect(page,page does not have url).to_have_url(assert_value)
The page load was successful and there are no errors.	locator	nth	soft/hard	to be ok		expect(page.locator(locator).nth(nth),element is not ok).to_be_ok()
The element is not attached to the DOM.	locator	nth	soft/hard	not to be attached		expect(page.locator(locator).nth(nth),element is present in page/dynamic element).not_to_be_attached()
The element is not checked (for checkboxes or radio buttons).	locator	nth	soft/hard	not to be checked		expect(page.locator(locator).nth(nth),element is checked).not_to_be_checked()
The element is not disabled.	locator	nth	soft/hard	not to be disabled		expect(page.locator(locator).nth(nth),element is disabled).not_to_be_disabled()
The element is not editable (e.g., input fields).	locator	nth	soft/hard	not to be editable		expect(page.locator(locator).nth(nth),element is editable).not_to_be_editable()
The element's value is not empty.	locator	nth	soft/hard	not to be empty		expect(page.locator(locator).nth(nth),element is empty).not_to_be_empty()
The element is not enabled (disabled).	locator	nth	soft/hard	not to be enabled		expect(page.locator(locator).nth(nth),element is enabled).not_to_be_enabled()
The element does not have focus.	locator	nth	soft/hard	not to be focused		expect(page.locator(locator).nth(nth),element is focused).not_to_be_focused()
The element is not hidden (visible).	locator	nth	soft/hard	not to be hidden		expect(page.locator(locator).nth(nth),element is hidden).not_to_be_hidden()
The element is not partially or fully visible within the viewport.	locator	nth	soft/hard	not to be in viewport		expect(page.locator(locator).nth(nth),element is in viewport).not_to_be_in_viewport()
The element is not visible.	locator	nth	soft/hard	not to be visible		expect(page.locator(locator).nth(nth),element is visible).not_to_be_visible()
The element does not contain the specified text.	locator	nth	soft/hard	not to contain text	partial_text	expect(page.locator(locator).nth(nth),element contains text).not_to_contain_text(assert_value)
The element does not have an accessible description.	locator	nth	soft/hard	not to have accessible description	value	expect(page.locator(locator).nth(nth),element has accessible description).not_to_have_accessible_description(assert_value)
The element does not have an accessible name.	locator	nth	soft/hard	not to have accessible name	value	expect(page.locator(locator).nth(nth),element has accessible name).not_to_have_accessible_name(assert_value)
The element does not have the specified attribute.	locator	nth	soft/hard	not to have attribute	"attribute","expected_value"	expect(page.locator(locator).nth(nth),element has attribute).not_to_have_attribute(assert_value)
The element does not have the specified class.	locator	nth	soft/hard	not to have class	class	expect(page.locator(locator).nth(nth),element has class).not_to_have_class(assert_value)
The locator does not match the specified number of elements.	locator	nth	soft/hard	not to have count	count	expect(page.locator(locator).nth(nth),element has count).not_to_have_count(assert_value)

The element does not have the specified CSS property.	locator	nth	soft/hard	not to have css	css	expect(page.locator(locator).nth(nth),element has css).not_to_have_css(assert_value)
The element does not have the specified ID.	locator	nth	soft/hard	not to have id	id	expect(page.locator(locator).nth(nth),element has id).not_to_have_id(assert_value)
The element does not have the specified JavaScript property.	locator	nth	soft/hard	not to have js property	"property","expected_value"	expect(page.locator(locator).nth(nth),element has the js properties).not_to_have_js_property(assert_value)
The element does not have the specified ARIA role.	locator	nth	soft/hard	not to have role	role	expect(page.locator(locator).nth(nth),element has the role).not_to_have_role(assert_value)
The element does not contain text.	locator	nth	soft/hard	not to have text	text	expect(page.locator(locator).nth(nth),element has the text).not_to_have_text(assert_value)
The element does not have the specified value.	locator	nth	soft/hard	not to have value	value	expect(page.locator(locator).nth(nth),element has value).not_to_have_value(assert_value)
The element does not have multiple values (e.g., for select elements).	locator	nth	soft/hard	not to have values	"value1","value2"	expect(page.locator(locator).nth(nth),element has values).not_to_have_values([assert_value])
The element does not have the specified title attribute.			soft/hard	not to have title	title	expect(page,page has title).not_to_have_title(assert_value)
The element does not have the specified URL (e.g., for links).			soft/hard	not to have url	url	expect(page,page has url).not_to_have_url(assert_value)
The page load was not successful or there are errors.	locator	nth	soft/hard	not to be ok		expect(page.locator(locator).nth(nth),element is ok).not_to_be_ok()

Loop Structure and Data Entry

Loop Type 1 : Simple Loop										Description This is a simple loop. The loop will iterate through all the elements in the element list created through the given locator. The key is given to store loop data in the reference loop dictionary and data dictionary.
Description	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Wait(ms)	
start loop	locator							key		
...test rows goes here...										
end loop										

Loop Type 2 : end case										Description Same as the above but the loop may end prematurely if the end loop assertion fails
Description	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Wait(ms)	
start loop	locator							key		
...test rows goes here...										
end loop	Locator				soft/hard	condition	assert value			

Loop Type 3 : end case continuous										Description The loop can continue endlessly until the end loop assertion fails. The length of element list does not matter in this loop type
Description	Locator	nth	Action	Value	Assert	Condition	Assert Value	Stored Value Key	Wait(ms)	
start loop	locator							key		
...test rows goes here...										
end loop contin	Locator				soft/hard	condition	assert value			

Execute and Conditional Statement Data Entry Flow

Element	Description	Execute	Locator	nth	Action	Value	Assert	Condition	Assert Value	Expected Value	Wait(ms)	URL	File Path	Conditional Key	Conditional Statement dictionary: dict = {}		
1		page.get_by_title("Search in").select_option(
2	Enter Search		//input[@id=		fill	Smartph					30000						
3	Click Search		//input[@id=		click						15000						
4		time.sleep(5)															
5	start loop 1		.s-pagination							list	10000						
6					master u												
7	start loop 2:		//span[@cla							product							
8	Goes to the				loop new												
9		page.wait_for_load_state("load")															
10	PAGE URL				get page					url							
11	PRODUCT N		#productTitl		text cont		soft	to be attac		title	30000			title			
12	RATING		#acrCustom		text cont		soft	to be attac		rating	30000						
13		page.wait_for_selector("//span[3]/span[2]/sp					soft										
14	PRICE		//div[1]/div[text cont		soft	to be visib		price	30000						
15	FEATURE		#feature-bul		all inner t		soft	to be visib		feature	1000						
16	TECH		#tech		all inner t		soft	to be visib		tech	1000				"iphone" in dictionary ["title"].lower()		
17	PRODUCT D		#prodDetails		all inner t		soft	to be visib		product_d	1000						
18	Close the cu				close tab												
19	end loop 2																
20	Click on the		.s-pagination		click						20000						
21	end loop 1:		.s-pagination				soft	not to hav	"aria-disab		20000						
		>>>>											>>>>	>>>>			
		This block run the exec() in python. I can run any code and it becomes the responsibility of the user to write the code correctly. Although I use this primarily for wait sequencies, this might help in giving the application extreme flexibility.				>>>>>								This block stores the data in from action function in dictionary: dict. When in a loop, the key refreshes in every run and it becomes the responsibility of the user to check the correct test row to access it.		This can run any conditional statement. Incase of a false value, the test row won't execute. This can access the dictionary: dict using the conditional key. While in a loop, the conditional	
								soft/hard									