**Test Case 1: Open Google and Search**

This test case opens Google, searches for "Selenium Python," and prints the title of the search results page.

python

**from selenium import webdriver**

**from selenium.webdriver.common.keys import Keys**

**# Set up the WebDriver (Chrome in this case)**

**driver = webdriver.Chrome()**

**# Open Google**

**driver.get("https://www.google.com")**

**# Find the search box using its name attribute value**

**search\_box = driver.find\_element("name", "q")**

**# Type the search term**

**search\_box.send\_keys("Selenium Python")**

**# Press the Enter key to submit the search**

**search\_box.send\_keys(Keys.RETURN)**

**# Print the title of the results page**

**print("Title of the results page:", driver.title)**

**# Wait for 10 seconds before closing the browser**

**driver.implicitly\_wait(10)**

**# Close the browser**

**driver.quit()**

**Test Case 2: Navigate to Wikipedia and Search for a Topic**

This test case opens Wikipedia, searches for "Automation," and prints the title of the resulting page.

python

**from selenium import webdriver**

**from selenium.webdriver.common.keys import Keys**

**# Set up the WebDriver (Chrome in this case)**

**driver = webdriver.Chrome()**

**# Open Wikipedia**

**driver.get("https://www.wikipedia.org/")**

**# Find the search box using its name attribute value**

**search\_box = driver.find\_element("name", "search")**

**# Type the search term**

**search\_box.send\_keys("Automation")**

**# Press the Enter key to submit the search**

**search\_box.send\_keys(Keys.RETURN)**

**# Print the title of the results page**

**print("Title of the results page:", driver.title)**

**# Wait for 10 seconds before closing the browser**

**driver.implicitly\_wait(10)**

**# Close the browser**

**driver.quit()**

**Test Case 3: Fill Out a Search Form on DuckDuckGo**

This test case opens DuckDuckGo, enters a search term, and prints the title of the search results page.

python

**from selenium import webdriver**

**from selenium.webdriver.common.keys import Keys**

**# Set up the WebDriver (Chrome in this case)**

**driver = webdriver.Chrome()**

**# Open DuckDuckGo**

**driver.get("https://www.duckduckgo.com/")**

**# Find the search box using its name attribute value**

**search\_box = driver.find\_element("name", "q")**

**# Type the search term**

**search\_box.send\_keys("Python tutorials")**

**# Press the Enter key to submit the search**

**search\_box.send\_keys(Keys.RETURN)**

**# Print the title of the results page**

**print("Title of the results page:", driver.title)**

**# Wait for 10 seconds before closing the browser**

**driver.implicitly\_wait(10)**

**# Close the browser**

**driver.quit()**

**Test Case 4: Verify Navigation to the GitHub Login Page**

This test case navigates to GitHub's homepage, clicks on the "Sign in" button, and verifies that the page navigated to the correct login URL.

python

**from selenium import webdriver**

**# Set up the WebDriver (Chrome in this case)**

**driver = webdriver.Chrome()**

**# Open GitHub**

**driver.get("https://www.github.com")**

**# Find and click on the "Sign in" button**

**sign\_in\_button = driver.find\_element("link text", "Sign in")**

**sign\_in\_button.click()**

**# Verify that the new page's URL is correct**

**current\_url = driver.current\_url**

**expected\_url = "https://github.com/login"**

**assert current\_url == expected\_url, f"URL mismatch! Expected: {expected\_url}, but got: {current\_url}"**

**# Print confirmation**

**print("URL verification passed!")**

**# Wait for 10 seconds before closing the browser**

**driver.implicitly\_wait(10)**

**# Close the browser**

**driver.quit()**

**Test Case 5: Interact with a Button on a Basic Website**

This test case opens a basic web page that contains a button, clicks the button, and checks if the action is successful.

python

**from selenium import webdriver**

**# Set up the WebDriver (Chrome in this case)**

**driver = webdriver.Chrome()**

**# Open a simple website with a button**

**driver.get("https://www.seleniumeasy.com/test/basic-first-form-demo.html")**

**# Find the "Show Message" button by its CSS selector and click it**

**show\_message\_button = driver.find\_element("css selector", "button[onclick='showInput();']")**

**show\_message\_button.click()**

**# Verify that the button was clicked successfully**

**output\_text = driver.find\_element("id", "display").text**

**assert output\_text != "", "Button click failed!"**

**# Print the output text to confirm the button click**

**print("Output text:", output\_text)**

**# Wait for 10 seconds before closing the browser**

**driver.implicitly\_wait(10)**

**# Close the browser**

**driver.quit()**