### **Documentation for Automation Script Implementation**

#### **Overview**

This automation script is implemented using **Selenium WebDriver** with the **TestNG framework** and **Maven** as the build management tool. The **Page Object Model (POM)** design pattern is applied to organize the code effectively for maintainability and scalability. The test scripts are written to automate browser interactions, validate functionality, and perform tests on elements such as Line Chart Representations, Leaflet Clickable functionality, and OpenStreet Clickable functionality.

#### **Project Structure**

The project is organized into the following packages:

1. **Package: basebrowser**
   * Contains two classes that are responsible for browser setup, state selection and Multiple browser declared function.
   * **Browser**: Handles browser initialization and configuration.
   * **State Selection**: Contains the logic to select a state using the "Select" class in the base class.
2. **Package: pageobject**
   * Contains various classes with different functionalities, such as interaction with elements, page navigation, and validation.
3. **Package: utilize**
   * Contains web element definitions and utility functions that aid in interacting with web elements on the page.
4. **Package: testsource**
   * Contains the actual test cases written in **TestNG**.
   * The test classes are responsible for executing the test cases and performing validations.
5. **pom.xml**:
   * **Maven** is used as the build tool, and dependencies like **Selenium** and **TestNG** are added in the **pom.xml** file to manage libraries and their versions.

**Functional Tests:**

* The test scripts different functionalities:
  + **Line Chart Representation**: A **for loop** is used to iterate over each data point in the chart and print the values.
  + **Leaflet Clickable Test Case**: Tests whether the leaflet element is clickable and performs the expected action.
  + **OpenStreet Clickable Test Case**: Similar to the Leaflet test, the OpenStreet map is clickable and functional.

### **Points to be Covered in the Automation Script:**

1. **Selenium WebDriver**: The automation script will be implemented using **Selenium WebDriver**.
2. **Page Object Model (POM)**: The **POM design pattern** will be applied to separate the page interaction logic from the test scripts.
3. **State Selection with the Select Class**: The state will be selected using the **Select** class, and the function will be defined in the base class to facilitate reuse.
4. **Line Chart Representation**: A **for loop** will be used to iterate over data points in a line chart and print the values.
5. **Validation Process**: Include steps to validate that the expected behavior(Home page title) occurs.
6. **Leaflet Clickable Test**: A test script to ensure the Leaflet element is clickable and works as expected.
7. **OpenStreet Clickable Test**: Similar to the Leaflet test, ensure that OpenStreet elements are clickable and functional.