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QA Engineering Problem – Jungle Socks  
Earnest, San Francisco  
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**Overview:**The testing framework has been created as a Maven project using TestNG and DataProvider with Excel. It consists of one test class ConfirmationPageTest.java and one test suite JungleSocksSuite.xml. The test suite is configured to run 3 test scenarios verifySalesTax(), invalidCart(), and verifyCatalogPricing(). The suite is also setup to run in parallel with 2 threads implementing cross browser testing against Firefox ~~and Chrome~~. The test scenarios themselves utilize a data driven approach with the test values stored in ConfirmationPageTest.xls. Each unique sheet in the excel file contains the values for the test based on method name. More details on each test method are specified at the top of the testcase class.

**Running:**Clone from <https://github.com/nikadams/JungleSocks.git>. To execute from command line using maven type:mvn clean test. The pom.xml should include all dependencies needed. JungleSocksSuite.xml located in the project root and can be executed as TestNG Suite inside Eclipse as well. The Chrome/Firefox drivers are included in the project in the test\resource\webdrivers folder and referenced relative to the resource folder. Driver.java also has logic to detect the OS environment and apply the correct driver. All ~~14~~ 7 Suite tests should complete successfully.

**Project Improvements:**As this is a basic project with time constraints there are certainly areas that can receive improvements. The DataProvider algorithm used includes a basic method to retrieve the items between markers and return the entire array. Another approach which I prefer is to store the values of the array into a Map<key,value>. This allows you to return only a Map object into your test method and you can use Map.get(column\_name) to retrieve its value, rather than explicitly passing in each variable into the test case as there could be many variables in the spreadsheet to keep track of.

Also use of the logger along with screenshots for end of tests and failed test will certainly help to improve debugging, while dynamically outputting to a test-output location.

Finally, there is currently no dynamic web driver manager used in this assignment. The specific Web drivers needed are included in the project however there are open source webdriver managers which can detect the system architecture and download the latest driver and set the path dynamically. This is especially useful when running across many different environments.

**Jungle Socks Website Improvements:**There are a couple items which would improve this website. Form validation of invalid quantity inputs or missing fields would save from testing these. Also server side quantity validation of the users order would be useful here instead of testing specifically for this.