**Project Title: Create a Testing Framework for Sporty Shoes Website**

**Project objective:**

The objective is to develop a comprehensive QA and test suite for the Sporty Shoes website. The QA effort will require the following:

* Browser-based end user testing using Selenium WebDriver
* Doing unit testing of the source code using Junit
* Load Testing using JMeter
* API Testing with Postman

The end-deliverables will be executable scripts and modules which can be run on demand for testing the Sporty Shoes web app.

**Background of the problem statement:**

Sporty Shoes has an e-commerce website which has the following existing features in place:

* Users can view products
* If users want to purchase something, they can first sign up and then log in
* Users can add multiple items in their cart and do a checkout
* Users have a dashboard which lets them edit their profile, view past purchases, and view their cart
* Once users do a checkout, the items are cleared from their cart and an order is generated which is stored in their order history

The above application is already functional. What is needed now is to add a testing layer which will ensure that everything is passed through QA.

**Implementation Requirements**

The following deliverables are expected:

1. Add additional code to the original project to add a REST API module. This module will have two API endpoints:

* Retrieve the list of all products in the store
* Retrieve the list of all registered users

1. Create Selenium scripts to test all the pages in the web app
2. Do unit testing for all the backend classes and methods
3. Create JMeter scripts to do load testing of the homepage and the product detail page
4. Create Postman scripts to test the two API endpoints mentioned in point 1 above

**You must use the following:**

* Source code editing and modification: Eclipse IDE
* Unit Testing: JUnit 5 (A unit testing framework for Java applications, available as an Eclipse Module)
* End-User Black Box Testing: Selenium WebDriver (A Browser testing framework where only the Java version is used.)
* Load Testing: JMeter (A load testing application for Java applications.)
* API Testing: Postman (A standalone application which allows testing of API-based services.)
* Git: To connect and push files from the local system to GitHub
* GitHub: To store the application code and track its versions
* Specification document: Any open source document or Google Docs

**The following requirements should be met:**

* All testing scripts and code should be pushed to your GitHub repository. You need to document the steps and write the algorithms in it.
* The submission of your GitHub repository link is mandatory. In order to track your task, you need to share the link to the repository. You can add a section in your document.
* Document the step-by-step process starting from creating test cases and then executing it and recording the results.
* You need to submit the final specification document which should include:

1. Project and tester details
2. Concepts used in the project
3. Links to the GitHub repository to verify the project completion
4. Your conclusion on enhancing the application and defining the USPs (Unique Selling Points)