Illumina Quality Engineer Interview Coding Challenge:

Instructions:

As a Quality Engineer, you have been assigned the task of implementing a test automation framework for a web application. The framework should allow for the automated testing of various UI components and functionalities. You can choose any programming language and testing framework of your preference.

Requirements if using Salesforce:

<Please sign up for Salesforce Developer Edition to complete this challenge if you are familiar with Salesforce.>

1. Write test cases to cover the following scenarios:
   a. Login: Verify that a registered user can log in with valid credentials.
   b. Search functionality: Verify that the search feature returns accurate results based on user input.
   c. Create Account: Verify that users can create an account.
   d. Create Contact: Verify that users can create a contact and associate to account created in Step c.
   e. Logout process: Verify that users can successfully logout of Salesforce.
2. Implement the necessary page object models (POM) or equivalent design pattern for better maintainability and readability of the tests.
3. Utilize appropriate assertions or verification techniques to validate the expected behavior of the application.
4. Demonstrate the ability to handle test data setup, teardown, and test dependencies.
5. Include appropriate error handling and logging mechanisms to facilitate debugging and troubleshooting.

Requirements for non-Salesforce implementation:

1. Choose a programming language of your preference and any necessary libraries or frameworks to accomplish the task.
2. Implement a web scraping function that retrieves the following financial data for a given stock symbol from yahoo.com (e.g., "AAPL"):
   a. Current stock price
   b. Market capitalization
   c. Price-to-Earnings (P/E) ratio
   d. Dividend yield

    e. Earnings per Share (EPS)
3. Perform validation checks on the scraped data by comparing it with a reliable external source (e.g., financial news website or API).
4. Implement appropriate error handling and logging mechanisms to capture and handle any potential exceptions during the scraping process.
5. Demonstrate the ability to handle test data setup, teardown, and test dependencies.

Deliverables:
1. Working on product demo during the interview
2. The brief document explains the design and structure of the test automation framework.

Note: Feel free to make any assumptions necessary to complete the challenge. Focus on writing clean, readable, and maintainable code. Providing a working solution that demonstrates your understanding of test automation best practices is key.
Good luck, and we look forward to reviewing your solution!