CS 240: Data Structures and Algorithms I

Project 1

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This project was a test in terms of knowledge with stacks and implementation of interfaces, in respect to exceptions. It asked of writing interfaces from scratch that included commentary, then implementing correctly, and understanding many concepts. By comprehending the nature of the class's methods and handling was it possible to code thoroughly.

Testing my code challenged the final output and the diversity of inputs. Testing my LinkedStack and ArrayStack was easy—I had the parameters and return statements cut clear for me. The test trials followed the guidelines set out, and with the reference of the textbook, the methods were shown true. The only issue was not importing any java collections because of the zero that will be attained, so I used the class named "InvalidExpressionException" to extend RuntimeException, as instructed in the project assignment details, but implemented methods that was appropriate to catch the "EmptyStackException" that was present in LinkedStack and ArrayStack. This lead to a bug-free compilation.

The "InfixToPostfixConverter" proved to be the greatest challenge in the project. Understanding the algorithm of a complicated conversion process was difficult. Once understood, the translation into java language was of a very delicate process—even with the textbook's aid on pseudo code. Testing this section of the project was most intricate due to the variety of parameters. Many test runs for specific situations and a combination of specifics were done and analyzed.

Overall, this project was most mindful of the thought process and direction in the way I should take my code. Debugging it is also a must in coding. This was an excellent assignment in creating a greater awareness of the roots in computer software.