**CS273 ASSIGNMENT #3**

## Name: \_\_\_\_\_ DUE: Tuesday, 10/29 .

**Grade:**

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| **CATEGORY** | **POINTS** |  |
| **ListStack**: Implement Stack by adapting Linked List |  | 20 |
| **VectorStack**: Implement Stack by adapting Vector |  | 20 |
| **IF2PF**: Implement the infix to postfix translator using your stack! |  | 20 |
| **TOTAL** |  | 60 |

**Objectives:**

* Practice implementing linked lists
* Practice implementing vectors
* Practice the adapter design pattern

Using the linked list and vector tutorials we went over in class, the material in lectures, and your knowledge of the STL linked list and STL vector, implement a stack as an adaptor of Linked List and another stack as an adaptor of the vector. Call your linked list based stack ListStack and your vector based stack VectorStack. **Do not simply #include<stack> and use the STL stack! Implement your own!** You may (in fact, I encourage it) use the STL List and STL Vector. It goes without saying you should thoroughly comment anything you implement.

Then, once your implementations are done, write an infix to postfix translator that uses your stack. Call your project IF2PF. You do not need to use both your stacks; use the one that is your favorite.

Finally, test your code by writing a main() that tries out several different expressions.

Submit your three completed projects using Whitgit as HW3.

Good luck!