

CSC 212 Tutorial #6

Stack

9/11/2014

Important: This tutorial has an online part, which you should complete on the LMS.

Problem 1

Write a static method `replace` (user of ADT) that takes as input a stack `st` and two elements `x` and `y`. The method replaces all the occurrences of the element `x` in `st` with `y`.

Method: *public static<T> void replace (Stack<T> st, T x, T y)*

Example: assuming `st` (top-to-bottom): 5, 7, 5, 3, 2. After calling `replace(st, 5, 0)` then `st` will be: 0, 7, 0, 3, 2.

Problem 2

Write a static method `insertAfter` (user of ADT) that takes a stack `st`, an index `i`, and an element `e` as inputs. It should insert the element `e` after the element at position `i` in the stack `st`. You can assume `i` is within the range of the stack, and that the top element has an index of 0.

Method: *public static<T> void insertAfter(Stack<T> st, int i, T e)*

Example: assuming `st` (top-to-bottom): 5, 7, 5, 3, 2. After calling `insertAfter(st, 2, 40)` then `st` will be: 5, 7, 5, 40, 3, 2.

Problem 3

Write the static method `removeLast` (user of ADT) that takes a stack `st` as input, and removes the last element of `st`.

Method: *public static<T> void removeLast(Stack<T> st)*

Example: assuming `st` (top-to-bottom): 5, 7, 5, 3, 2. After calling `removeLast(st)` the `st` will be: 5, 7, 5, 3.