

King Saud University
College of Computer and Information Sciences
Computer Science Department

CSC 212

First Semester 1439-1440

Tutorial # 7

Problem 1

1. Write the recursive static method ***copyStack*** that takes two Stacks *srcStack* and *destStack* and copies all the elements of *srcStack* into *destStack* in the same order while preserving *srcStack*. You can assume *destStack* can hold all *srcStack* elements. You are not allowed to use any auxiliary data structures.

Method: *public static<T> void copyStack(Stack<T> srcStack, Stack<T> destStack)*

2. Write the recursive static method ***searchStack*** that searches for an element *elem* in a Stack *stack* and returns true if it's found or false otherwise. *stack* should not change at the end of the method. You are not allowed to use any auxiliary data structures.

Method: *public static<T> boolean searchStack(Stack<T> stack, T elem)*

Problem 2

1. Write the recursive method ***search*** member of the class ***LinkedList*** that searches for an element *elem* in the list and returns true if it's found or false otherwise. You are not allowed to use any auxiliary data structures or call any of the ***LinkedList*** methods.

Method: *public boolean search(T elem)*

2. Write the static recursive method ***searchList*** that searches for an element *elem* in a List *list* and returns true if it's found or false otherwise. You are not allowed to use any auxiliary data structures.

Method: *public static<T> boolean searchList(List<T> list, T elem)*