

CSC 230 Elementary Data Structures and Algorithms
Spring 2014 - Assignment 6A
Due Friday, April 18, 2014, 8:00am

Assignment 6A Skills

Lists

Assignment 6A Background

For this assignment you will be writing classes for lists that store integers.

Assignment 6A Requirements

1. (20%) Write a class called **ArrayList** that uses an integer array to store a list of integers. It should implement methods for the following operations:
 - (a) emptying the list
 - (b) adding a new element at the beginning of the list.
 - (c) adding a new element at the end of the list.
 - (d) adding a new element at a specified position in the list.
 - (e) removing an element from the beginning of the list.
 - (f) removing an element from the end of the list.
 - (g) removing an element from a specified position in the list.
 - (h) determining if the list contains a specified value.
 - (i) count the number of occurrences of a specified value.
2. (10%) Write a class called **Node**. This class should include the following:
 - (a) an private integer for the stored data.
 - (b) a private **Node** reference for the next link.
 - (c) Constructors/getters/setters as necessary.
3. (20%) Write a class called **LinkedList** that uses linked data to store a list of integers. It should implement methods for the same operations as the **ArrayList** class.

Assignment 6A Submission Submit on Blackboard:

1. Node.java
2. ArrayList.java
3. LinkedList.java

Required Each submitted file should include your name and a statement that this is your own work. This should appear as a comment at the beginning of any code file.