

Project #1

Due Dates: Saturday, June 22 at 11:59pm

Submit: eLearning

Late Policy: -10 points per hour late

Instructions: This is an individual assignment. Answers should be your own work.

Introduction:

In this project you will add methods to an existing linked list class.

Description:

Modify the author's "MyLinkedList" class to add the following methods.
Perform checking of the parameters and throw exceptions where appropriate.

10 points each (a-h)

- a. `itemCount`
receives a value and returns a count of the number of times this item is found in the list.
- b. `swap`
receives two index positions as parameters and swaps the two nodes (the nodes, not just the values inside) at these positions, provided both positions are within the current size.
- c. `sublist`
receives two indexes and returns an ArrayList of node values from the first index to the second index, provided the indexes are valid.
- d. `select`
receives a variable number of indexes, and returns an ArrayList of node values corresponding to each index given, provided the indexes are valid.
- e. `reverse`
returns a new MyLinkedList that has the elements in reverse order.
- f. `erase`
receives an index position and number of elements as parameters, and removes elements beginning at the index position for the number of elements specified, provided the index position is within the size and together with the number of elements does not exceed the size.
- g. `insertList`
receives a List and an index position as parameters, and copies all of the passed list into the existing list at the position specified by the parameter, provided the index position does not exceed the size.
- h. `shift`
receives an integer and shifts the list this many nodes forward or backward, for example, if passed 2, the first two nodes move to the tail, or if passed -3, the last three nodes move to the front.

+2: abcde -> cdeab -3: abcde -> cdeab

20 points

i. main

change the main method to demonstrate each of your methods.

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MyLinkedList.java