January 2024, CSE 106

Online on Array list and Linked list

Time: 30 minutes

Reversing the bookshelf

Let's say you have n books in a shelf. These books have ID from *0* to *n-1*, and they are not arranged in order. You look at the shelf and immediately want to reverse it whole. That is, the first book goes to the last position, the second book goes to the second to last position, . . . , the last book goes to the first position

Implement this functionality

Table 1

Before	Function name	After
< 1 |3 0 2 >	reverse()	< 2 |0 3 1 >

You have to implement this functionality for both implementations of your list ADT. You can use the operations you implemented in your offline or use any helper functions of your choosing.

You can copy your offline assignment code and then modify it. Keep the assignment code intact for evaluation.

Input format:

The first line of the input is a single number n, denoting the *number of books*.

The books will have ID from 0 to *n-1*.

The next line contains *n numbers from 0 to n-1*, denoting the order of the books as they appear on the shelf.

Output format:

Print out the reversed shelf with both the Array List and Linked List implementations.

Hint: Use two node pointers.

Submission guidelines:

- Open a new folder
- Rename the folder as your 7-digit student ID
- Put all of your codes and files there (.h, .c and .txt files)
- Zip the folder
- Upload the zip file to moodle.