Introduction to Basic Data Structures

Module 9: Practice Problem

Topics:

1. STL List (All problem solve using STL List)

Practice Problem 1

Question: Take two doubly linked lists as input and check if they are the same or not.

Sample Input	Sample Output
10 20 30 40 50 -1 10 20 30 40 50 -1	YES
10 20 30 40 50 -1 10 20 30 40 -1	NO
10 20 30 40 -1 10 20 30 40 50 -1	NO
10 20 30 40 -1 40 30 20 10 -1	NO
1 2 3 4 5 -1 5 4 1 2 6 -1	NO

Practice Problem 2

Question: Take a doubly linked list as input and reverse it. After that print the linked list.

Sample Input	Sample Output
10 20 30 -1	30 20 10
10 20 30 40 -1	40 30 20 10

Practice Problem 3

Question: Take a doubly linked list as input and check if it forms any palindrome or not.

Sample Input	Sample Output
10 20 30 20 10 -1	YES
10 20 30 30 20 10 -1	YES
10 20 30 40 20 10 -1	NO
10 20 30 20 40 -1	NO
10 20 30 10 10 -1	NO
10 20 20 20 10 -1	YES

Practice Problem 4

Question: You have a doubly linked list which is empty initially. You need to take a value Q which refers to queries. For each query you will be given X and V. You will insert the value V to the Xth index of the doubly linked list and print the list in both left to right and right to left. If the index is invalid then print "Invalid".

Sample Input	Sample Output
6 0 10 1 20 4 30 0 30 1 40 5 50	10 10 10 20 20 10 Invalid 30 10 20 20 10 30 30 40 10 20 20 10 40 30 Invalid

Practice Problem 5

Question: Take a doubly linked list as input and sort it in ascending order. Then print the list.

Sample Input	Sample Output
1 4 5 2 7 -1	1 2 4 5 7
20 40 30 10 50 60 -1	10 20 30 40 50 60