Write a C++ program to create a doubly linked list from user input. Implement a function to reverse the list in place, meaning you should not use any additional data structures. The program should display the list before and after the reversal.

Enter the number of elements in the list: 5

Enter the elements of the list: 1 2 3 4 5

Original list: 1 2 3 4 5

Reversed list: 5 4 3 2 1