

Report

Created a linked list class that includes a Node struct where each node has its data and count stored and a next* pointer node linking to the next node in the list. The class has a default constructor and destructor. Functions to add/remove the last node in the list. Equivalently functions to insert or delete specific nodes on the list. Createlist function that takes in a vector and a referenced list and fills it with the vector's elements. Sum function that traverses each node and returns the total sum. In the main the user is asked for the number of integers he would like to input and a vector of type int is created which is filled by whatever the user enters. The user is then asked to choose 2 integers and then an insertAfter function checks the vector and adds the second integer after every instance of the first integer. Following which the resulting vector is displayed to the user. Finally, a list is created with the vector's elements using the createList function and passing it by reference. Size and sum are displayed along with the repetition count of every node in the list.

Comment: Reason destructor would cause problems is that you should **pass the list by reference** in the createList function or else after the function is ran the compiler tries to destruct the initial list since you made a new "copy".

Output:

```
Enter the number of integers you want to enter: 5
Enter the integers: 1
1
1
3
4
Enter the first integer: 1
Enter the second integer: 2
The vector is: 1 2 1 2 1 2 3 4

The list is: 1 2 1 2 1 2 3 4
The size of the list is: 8
The sum of all the nodes is: 16
The count of each value in the list is: 3 3 3 3 3 3 1 1
C:\Users\M.H\Desktop\University\Assignments\Assignment-3\x64\Debug\Assignment-3.exe (process 9696) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .|
```