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**ASSIGNMENT NO:** 7

**PROBLEM STATEMENT:**

Using standard template library (STL) list container implement following member functions of list class: empty, insert, reverse, sort, Unique, using iterator.

**AIM OF ASSIGNMENT:**

C++ Program to implement and understand the concepts of list container. Include the list and iterator class, to use member function of list.

**DESCRIPTION:**

In this program, firstly we included the list and iterator class. We created two objects of list class (g & l1) and defined a function to display the list using iterator. We used member functions like begin(), end(), empty(), push\_back(), pop\_front(), front(), back(), reverse(), sort(), unique().

**OOP CONCEPT USED:** List:- Lists are sequence containers that allow non-contiguous memory allocation. As compared to vector, list has slow traversal, but once a position has been found, insertion and deletion are quick.

[push\_back(g)](https://www.geeksforgeeks.org/list-push_back-function-in-c-stl/) – Adds a new element ‘g’ at the end of the list.

[empty()](https://www.geeksforgeeks.org/list-empty-function-in-c-stl/) – Returns whether the list is empty(1) or not(0).

[sort()](https://www.geeksforgeeks.org/stdlistsort-c-stl/) – Sorts the list in increasing order.

[reverse()](https://www.geeksforgeeks.org/list-reverse-function-in-c-stl/) – Reverses the list.

[list merge() function in C++ STL](https://www.geeksforgeeks.org/list-merge-function-in-c-stl/)– Merges two sorted lists into one

2. Iterator:- Iterators are used to point at the memory addresses of [STL](http://quiz.geeksforgeeks.org/the-c-standard-template-library-stl/) containers. They are primarily used in sequence of numbers, characters etc. They reduce the complexity and execution time of program

**CONCLUSION:**

Hence, we learnt the concept of list for storing the data. It flows random access to data which was not in the case of array.