

C++ STL & File IO – Lab Exercises

1. Create STL list of string and add following names of your 10 friends. Sort the list and display in reverse order using reverse iterator.
2. Create STL vector of float of size given by the user. Input values from the user. Iterate through the vector two times to find minimum value and maximum value. Use subscript operator for the first iteration, while iterator for the second iteration.
3. Create STL queue of double values. Write a menu driven program to push, pop, peek and delete all values in queue. After each operation display current size of queue.
4. Create STL list of int values. Add 100 random values in it (use rand() function of C). Display all unique elements in list. Hint: use set.
5. Declare a string to store some information. Use stringstream class to tokenize string into multiple words and put them into a vector. Count frequency of each word (use map) and finally print the word that is repeated maximum along with its count.
`string info = "coronavirus disease is an infectious disease caused by a new virus. the disease causes respiratory illness with symptoms such as a cough, fever, and in more severe cases, difficulty breathing. you can protect yourself by washing your hands frequently, avoiding touching your face, and avoiding close contact with people who are unwell.";`
6. Create matrix using STL vector of size NxN where N is odd number entered by user. Input values from user and check if its both diagonal sum is same or not. Print the message accordingly.
7. A text file contains set of integer (in range of 1 to 9) values separated by spaces. Read them into STL vector. Find the missing numbers from them.
Input: 3 7 9 4 3 7 9 8 6 4 7 2
Output: 1 5
8. Create a student class storing roll number, name (use char[] not string) and marks. Write a menu driven File IO program using C++ library classes to add student, display all students, find student by roll number and edit student.