

Assignment No 12

Demonstration of STL : Stack

AIM : Write C++ program using STL to add binary numbers

(assume one bit as one number); use STL stack.

Objectives:

1. To learn and understand concepts of Standard Template Library.
2. To demonstrate STL for implementation of stack for binary number addition.

Outcomes:

1. Students will be able to learn and understand concepts of STL.
2. Students will be able to demonstrate various operations on stack using STL

Introduction

LIFO stack:

Stacks are a type of container adapter, specifically designed to operate in a LIFO context (last-in first-out), where elements are inserted and extracted only from one end of the container.

Stacks are implemented as container adapters, which are classes that use an encapsulated object of a specific container class as its underlying container, providing a specific set of member functions to access its elements. Elements are pushed/popped from the “back” of the specific container, which is known as the top of the stack.

The functions associated with stack are:

<code>empty()</code>	– Returns whether the stack is empty
<code>size()</code>	– Returns the size of the stack
<code>top()</code>	– Returns a reference to the top most element of stack
<code>push(g)</code>	– Adds the element 'g' at the top of the stack
<code>pop()</code>	– Deletes the top most element of the stack

Conclusion: