

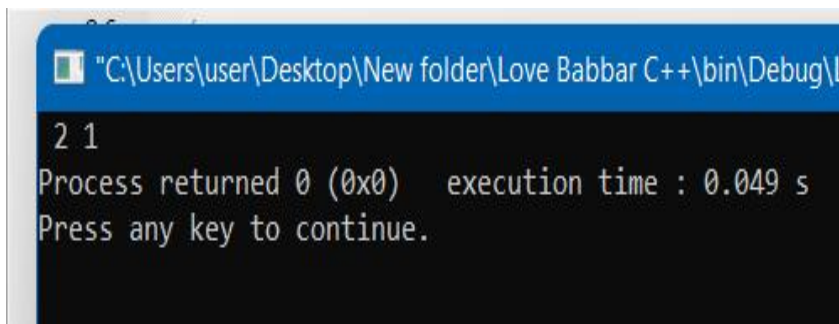
## Week 3

### Topics: STL, Stack and Queue using STL

1) Q.1. Write a program using the stack STL to implement the following :

Input : push(1), push(2), push(4), push(5), pop, pop

```
#include <iostream>
#include <stack>
using namespace std;
int main() {
    stack<int> st;
    st.push(1);
    st.push(2);
    st.push(4);
    st.push(5);
    st.pop();
    st.pop();
    while (!st.empty()) {
        cout << ' ' << st.top();
        st.pop();
    }
}
```



```
"C:\Users\user\Desktop\New folder\Love Babbar C++\bin\Debug\l
2 1
Process returned 0 (0x0) execution time : 0.049 s
Press any key to continue.
```

**Q2) Write a program using the Queue STL to find the sum of the all the integers for a given queue of integers.**

**Input : 3, 7, 4, 5, 1**

**Output : 20**

```
#include <iostream>
#include <queue>
using namespace std;
int main()
{
int sum=0;
queue<int> q;
q.push(3);
q.push(7);
q.push(4);
q.push(5);
q.push(1);
while (!q.empty()) {
sum+= q.front();
q.pop();
}
cout<<sum;
return 0; }
```

A screenshot of a Windows command prompt window. The title bar is blue and contains the text "C:\Users\user\Desktop\New folder\Love Babbar C++\bin\Debug\Love". The main area of the window is black with white text. It displays the output "20" on the first line. The second line shows "Process returned 0 (0x0) execution time : 0.021 s". The third line shows "Press any key to continue.".

**Q.3. write a program using stack STL to swap the content of one stack with another stack of same type**

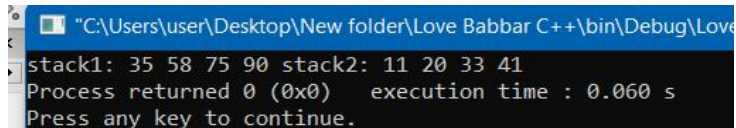
**Input : stack1 = {41, 33, 20, 11}**

**stack2 = {90, 75, 58, 35}**

**Output : stack1 = 90, 75, 58, 35**

**stack2 = 41, 33, 20, 11**

```
#include <stack>
#include <iostream>
using namespace std;
int main()
{
    stack<int> stack1;
    stack<int> stack2;
    stack1.push(41);
    stack1.push(33);
    stack1.push(20);
    stack1.push(11);
    stack2.push(90);
    stack2.push(75);
    stack2.push(58);
    stack2.push(35);
    swap(stack1, stack2);
    cout<<"stack1: ";
    while (!stack1.empty()) {
        cout<<stack1.top()<<" ";
        stack1.pop();
    }
    cout<<"stack2: ";
    while (!stack2.empty()) {
        cout<<stack2.top()<<" ";
        stack2.pop();
    }
    return 0;
}
```



The screenshot shows a terminal window with the following output:  
stack1: 35 58 75 90 stack2: 11 20 33 41  
Process returned 0 (0x0) execution time : 0.060 s  
Press any key to continue.

4)

Output:

2

1

5)

Reverse the entire queue

6)

Output: 34 76 TUTORIAL-4