**Assignment No.10(Implementation of stack and queue using STL).**

**Stack:**

#include <iostream>

#include<stack>

using namespace std;

stack<int> s;

class stlStack{

public:

void inserts(){

int a[10],n;

cout<<endl<<"Enter count:";

cin>>n;

cout<<endl<<"Enter elements do you want to push in stack:";

for(int i=0;i<n;i++){

cin>>a[i];

s.push(a[i]);}

cout<<endl<<"Elements inserted successfully!!!";

}

void deletes(){

s.pop();

cout<<endl<<"Element deleted successfully!!!!";

}

void display(){

if(!s.empty()){

cout<<endl<<"Stack elements are:";

while(!s.empty()){

cout<<s.top()<<"\t";

s.pop();}

}else{

cout<<endl<<"Stack is empty!!!";}}

};

int main(){

stlStack s1;

int ch;

do{

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*\*STACK IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*";

cout<<endl<<"1.Push elements in stack....\n2.Pop elements from stack......\n3.Display....\n4.Exit....";

cout<<endl<<"Enter your choice:";

cin>>ch;

switch(ch){

case 1:

s1.inserts();

break;

case 2:

s1.deletes();

break;

case 3:

s1.display();

break;

case 4:

break;

default:

cout<<endl<<"wrong choice!!!";

}

}while(ch!=4);

return 0;

}

**Output:**

\*\*\*\*\*\*\*\*\*\*\*\*\*STACK IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in stack....

2.Pop elements from stack......

3.Display....

4.Exit....

Enter your choice:1

Enter count:4

Enter elements do you want to push in stack:12 34 56 78

Elements inserted successfully!!!

\*\*\*\*\*\*\*\*\*\*\*\*\*STACK IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in stack....

2.Pop elements from stack......

3.Display....

4.Exit....

Enter your choice:2

Element deleted successfully!!!!

\*\*\*\*\*\*\*\*\*\*\*\*\*STACK IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in stack....

2.Pop elements from stack......

3.Display....

4.Exit....

Enter your choice:3

Stack elements are:56 34 12

**Queue implementation.**

#include <iostream>

#include<queue>

using namespace std;

queue<int> s;

class stlQueue{

public:

void inserts(){

int a[10],n;

cout<<endl<<"Enter count:";

cin>>n;

cout<<endl<<"Enter elements do you want to push in Queue:";

for(int i=0;i<n;i++){

cin>>a[i];

s.push(a[i]);}

cout<<endl<<"Elements inserted successfully!!!";

}

void deletes(){

s.pop();

cout<<endl<<"Element deleted successfully!!!!";

}

void display(){

if(!s.empty()){

cout<<endl<<"Queue elements are:";

while(!s.empty()){

cout<<s.front()<<"\t";

s.pop();}

}else{

cout<<endl<<"Queue is empty!!!";}}

};

int main(){

stlQueue s1;

int ch;

do{

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*\*QUEUE IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*";

cout<<endl<<"1.Push elements in Queue....\n2.Pop elements from Queue......\n3.Display....\n4.Exit....";

cout<<endl<<"Enter your choice:";

cin>>ch;

switch(ch){

case 1:

s1.inserts();

break;

case 2:

s1.deletes();

break;

case 3:

s1.display();

break;

case 4:

break;

default:

cout<<endl<<"wrong choice!!!";

}

}while(ch!=4);

return 0;

}

**Output:**

\*\*\*\*\*\*\*\*\*\*\*\*\*QUEUE IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in Queue....

2.Pop elements from Queue......

3.Display....

4.Exit....

Enter your choice:1

Enter count:4

Enter elements do you want to push in Queue:12 34 56 77

Elements inserted successfully!!!

\*\*\*\*\*\*\*\*\*\*\*\*\*QUEUE IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in Queue....

2.Pop elements from Queue......

3.Display....

4.Exit....

Enter your choice:2

Element deleted successfully!!!!

\*\*\*\*\*\*\*\*\*\*\*\*\*QUEUE IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in Queue....

2.Pop elements from Queue......

3.Display....

4.Exit....

Enter your choice:2

Element deleted successfully!!!!

\*\*\*\*\*\*\*\*\*\*\*\*\*QUEUE IMPLEMENTATION USING STL\*\*\*\*\*\*\*\*\*\*\*\*

1.Push elements in Queue....

2.Pop elements from Queue......

3.Display....

4.Exit....

Enter your choice:3

Queue elements are:56 77