**Assignment No.11(Addition of Binary Numbers using stack STL).**

#include <iostream>

#include<stack>

using namespace std;

stack<int> s;

stack<int> accept(){

int num,cnt=0;

cout<<endl<<"Enter number of bits:";

cin>>cnt;

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

cin>>num;

s.push(num);}

return s;

}

stack<int> add(stack<int> &a,stack<int> &b){

stack<int> y;

int sum=0,carry=0;

while(!a.empty()&&!b.empty()){

int d=a.top();

a.pop();

int g=b.top();

b.pop();

sum=(d+g)%2;

carry=(d+g)/2;

y.push(sum);}

if(carry==1)

y.push(carry);

return y;}

void display(stack<int> &a){

cout<<endl<<"Addition is:";

while(!a.empty()){

cout<<a.top();

a.pop();}

}

int main(){

stack<int> s1,s2,s3;

int ch;

do{

cout<<endl<<"1.Enter first Binary number....\n2.Enter second Binary number....\n3.Addition....\n4.Display result...\n5.Exit...";

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

cin>>ch;

switch(ch){

case 1:

s1=accept();

break;

case 2:

s2=accept();

break;

case 3:

s3=add(s1,s2);

break;

case 4:

display(s3);

break;

case 5:

break;

}

}while(ch!=5);

return 0;

}

**Output:**

1.Enter first Binary number....

2.Enter second Binary number....

3.Addition....

4.Display result...

5.Exit...

Enter your choice:1

Enter number of bits:4

0 0 1 1

1.Enter first Binary number....

2.Enter second Binary number....

3.Addition....

4.Display result...

5.Exit...

Enter your choice:2

Enter number of bits:4

1 1 0 0

1.Enter first Binary number....

2.Enter second Binary number....

3.Addition....

4.Display result...

5.Exit...

Enter your choice:3

1.Enter first Binary number....

2.Enter second Binary number....

3.Addition....

4.Display result...

5.Exit...

Enter your choice:4

Addition is:1111