Link=<https://www.youtube.com/watch?v=xdK1ezuRQFU&list=PLoa_roVVsxA1CJu4DsOljb9d7FJkMCynM&index=3>

[L1]Class - 3 ( Almost everything about STL String )[Bangla]

**Class Video link :**

<https://youtu.be/xdK1ezuRQFU>

**Discussed topics :**

1) Almost everything about STL String.

My Code : <https://pastebin.com/x18NfqLp>

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s;

s=s+'a';//s="a"

s=s+'b';//s="ab"

s+='c';//s="abc"

cout<<s<<endl;

return 0;

}

Output:

abc

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="Hamid";

cout<<s<<endl;

return 0;

}

Output:

Hamid

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="Hamid";

s=s+' ';

s=s+'a';

cout<<s<<endl;

return 0;

}

Output:

Hamid a

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="Hamid";

cout<<s.size()<<endl;

cout<<s<<endl;

return 0;

}

Output:

5

Hamid

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="Hamid";

s[0]='a';

cout<<s[0]<<' '<<s[1]<<" "<<s[2]<<endl;

return 0;

}

Output:

a a m

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s;

string s1="Hamid",s2="Hosen";

char c=' ';

//s=s1+c+s2;

s1+=c;

s1+=s2;

cout<<s1<<endl;

return 0;

}

Output:

Hamid Hosen

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s;

string s1="Hamid",s2="Hosen";

s1.clear();

cout<<s1<<endl;

return 0;

}

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s;

string s1="Hamid",s2="Hosen";

s1.clear();

s1=s2;

cout<<s1<<endl;

return 0;

}

Output:

Hosen

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s;

string s1="Hamid",s2="Hosen";

s1.clear();

cout<<s1.empty()<<endl;

return 0;

}

Output:

1

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="Md.Hamid Hosen Azad";

string ::iterator it;

for(it=s.begin();it!=s.end();it++){

cout<<\*it;

}

cout<<endl;

return 0;

}

Output:

Md.Hamid Hosen Azad

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="Md.Hamid Hosen Azad";

for(auto u:s) cout<<u;

cout<<endl;

return 0;

}

Output:

Md.Hamid Hosen Azad

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s1="Hamid",s2="Hamid";

if(s1==s2) cout<<"Equal"<<endl;//O(n)

else cout<<"Not Equal"<<endl;

return 0;

}

Output:

Equal

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s1="Hamid";

reverse(s1.begin(),s1.end());//O(n)

cout<<s1<<endl;

return 0;

}

Output:

dimaH

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

string s="aabaa";

string temp=s;

reverse(temp.begin(),temp.end());

if(s==temp) cout<<"Palindrome"<<endl;

else cout<<"Not palindrome"<<endl;

}

Output:

Palindrome

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

int main()

{

optimize();

string s;

cin>>s;

cout<<s<<endl;

}

Output:

Hamid

Hamid

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

int main()

{

optimize();

string s,s1,s2;

cin>>s;

cout<<s<<endl;

cin>>s1;

cout<<s1<<endl;

cin>>s2;

cout<<s2<<endl;

}

**Output:**

Hamid

Hamid

Hosen

Hosen

Azad

Azad

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s,s1,s2;

cin>>s;

cout<<s<<endl;

cin>>s1;

cout<<s1<<endl;

cin>>s2;

cout<<s2<<endl;

}

**Output:**

Hamid

Hosen

Azad

Hamid

Hosen

Azad

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s,s1,s2;

cin>>s;

cout<<s<<endl;

cin>>s1;

cout<<s1<<endl;

cin>>s2;

cout<<s2<<endl;

}

**Output:**

Hamid

Hamid

Hosen

Hosen

Azad

Azad

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

int t,i=1;

cin>>t;

//cin.ignore();

while (t--){

string s;

char c;

cin>>c;

getline(cin,s);

s=c+s;//but not use s=s+c

cout<<"Case "<<i++<<" :"<< s<<endl;

}

}

**Output:**

3

Hamid

Case 1 :Hamid

Hosen

Case 2 :Hosen

Azad

Case 3 :Azad

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="deacbA";

sort(s.begin(),s.end());

cout<<s<<endl;

sort(s.rbegin(),s.rend());

cout<<s<<endl;

return 0;

}

**Output:**

Aabcde

edcbaA

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="deacbAAA";

sort(s.begin(),s.end());

int size=unique(s.begin(),s.end())-s.begin();

cout<<size<<endl;

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

cout<<s[i];

}

cout<<endl;

return 0;

}

**Output:**

6

Aabcde

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="deacbAAA";

int n=max\_element(s.begin(),s.end())-s.begin();

int n1=min\_element(s.begin(),s.end())-s.begin();

cout<<\*max\_element(s.begin(),s.end())<<endl;

cout<<\*min\_element(s.begin(),s.end())<<endl;

cout<<n<<endl;

cout<<n1<<endl;

return 0;

}

**Output:**

e

A

1

5

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="deacbAAA";

s.erase(s.begin());

cout<<s<<endl;

cout<<\*s.erase(s.begin())<<endl;//O(n)

s.pop\_back();

cout<<s<<endl;

s.erase(s.end()-1);

cout<<s<<endl;

return 0;

}

**Output:**

eacbAAA

a

acbAA

acbA

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="eeemon",t="eemomo";

if(s<t) cout<<s<<" is smallest"<<endl;

else cout<<t<<" is smallest"<<endl;

return 0;

}

**Output:**

eeemon is smallest

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="ee",t="eee";

if(s<t) cout<<s<<" is smallest"<<endl;

else cout<<t<<" is smallest"<<endl;

return 0;

}

**Output:**

ee is smallest

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="ABcjsdsdsldsald",t="aBCSDF";

if(s<t) cout<<s<<" is smallest"<<endl;

else cout<<t<<" is smallest"<<endl;

return 0;

}

**Output:**

ABcjsdsdsldsald is smallest

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

vector<string> v;

v.push\_back("Shariar");

v.push\_back("Mobarrat");

v.push\_back("emon");

v.push\_back("Nishan");

v.push\_back("momo");

v.push\_back("Prity");

sort(v.begin(),v.end(),greater<string>());

for(auto u:v){

cout<<u<<endl;

}

cout<<endl<<endl;

sort(v.begin(),v.end());

for(auto u:v){

cout<<u<<endl;

}

return 0;

}

**Output:**

momo

emon

Shariar

Prity

Nishan

Mobarrat

Mobarrat

Nishan

Prity

Shariar

emon

momo

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s="ABACAD";

s.erase(remove(s.begin(),s.end(),'A'),s.end());

cout<<s<<endl;

return 0;

}

**Output:**

BCD

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

int a=123;

string s;

s=to\_string(a);

cout<<s<<endl;

}

**Output:**

123

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

int a;

string s="123";

a=stoi(s);

cout<<a<<endl;

}

**Output:**

123

///In the name of ALLAH

*#include<bits/stdc++.h>*

using namespace std;

int main ()

{

/// Declare string

string s;

/// Assign string

s = "abcdf";

/// Printing size of string

cout << s.size() << endl; /// 5

/// Printing string

cout << s << endl; /// abcdf

/// Pushing char back to a string

s += 'b';

s += 'c';

cout << s << endl; /// abcdfbc

/// Taking input string

cin >> s;

cout << s << endl;

s = "asdfgg";

/// Checking is a string empty or not

string s1;

cout << s.empty() << endl; /// 0

cout << s1.empty() << endl; /// 1

/// Assigning an string in another string variable

s1 = s;

s.clear();

cout << s.empty() << endl; /// 1

cout << s1.empty() << endl; /// 0

/// assigning 'k' in 0-th index

s = "asdfg";

s[0] = 'k';

cout << s << endl; ///kasdfg;

s = "abc";

s1 = "def";

/// String concatenation

string tmp = s + s1;

cout << tmp << endl; /// abcdef

/// String iterator

string::iterator it;

for ( it = s.begin(); it != s.end(); it++ ) cout << \*it; /// abc

cout << endl;

/// For each loop

for ( auto c : s ) cout << c; /// abc

cout << endl;

s = "asd";

tmp = s;

/// Comparing two strings

if ( tmp == s ) cout << "Yes Match\n";

else "No Match\n";

/// String reverse and checking is a string is palindrome or not

s = "asddsa";

tmp = s;

reverse( tmp.begin(), tmp.end() );

if ( tmp == s ) cout << "Yes Palindrome" << endl;

else cout << "Not Palindrome" << endl;

/// String sorting in non-decreasing order

s = "gfds";

sort ( s.begin(), s.end() );

cout << s << endl; /// dfgs

/// String sorting in non-increasing order

sort ( s.rbegin(), s.rend() );

cout << s << endl; /// sgfd

/// Getting all unique elements of a string. Be care full, string should be sorted.

s = "aaadddsss";

int n = unique( s.begin(), s.end() ) - s.begin();

for ( int i = 0; i < n; i++ ) cout << s[i];/// ads

cout << endl;

/// Getting maximum element of string

cout << \*max\_element( s.begin(), s.end() ) << endl; /// s

/// Getting minimum element of string

cout << \*min\_element( s.begin(), s.end() ) << endl; /// a

/// When we want to take input with space

/// input : Muhammad Shahriar Alam

char c;

cin >> c;

getline( cin, s );

s = c + s;

cout << s << endl; /// Muhammad Shahriar Alam

/// If we need to sort some string on lexicographical order :

vector<string> v;

v.push\_back( "Muhammad" );

v.push\_back( "Nova" );

v.push\_back( "Maslenia Mubarrat" );

v.push\_back( "CPS Academy" );

v.push\_back( "Rashedul Alam Anik" );

v.push\_back( "Farhan sadik Sakib" );

v.push\_back( "Gazi Mohaimin Iqbal" );

sort ( v.begin(), v.end() );

for ( auto u : v ) cout << u << endl;

/\*\*

Out put :

CPS Academy

Farhan sadik Sakib

Gazi Mohaimin Iqbal

Maslenia Mubarrat

Muhammad

Nova

Rashedul Alam Anik

\*/

s = "asdf";

s.pop\_back(); /// removes last char of string

cout << s.back() << endl; /// print last char of string

v.clear();

v = { "Shahriar", "Shahriar", "Momo", "Momo", "Sharif", "Sharif" };

int Sz = unique ( v.begin(), v.end() ) - v.begin();

cout << Sz << endl; /// Number of unique strings in vector v;

for ( int i = 0; i < Sz; i++ ) cout << v[i] << endl; /// Prints all unique strings in vector v

/// Converting int to string

int a = 123;

s = to\_string (a);

cout << s << endl; /// 123

s[0] = '3';

cout << s << endl; /// 323

/// Converting string to integer

s = "123";

a = stoi ( s );

cout << a << endl; /// 123

a++;

cout << a << endl; /// 124;

/// Deleting a substring from string

s = "ShaKAKAhriar";

s.erase ( s.begin()+3, s.begin()+7 ); /// erase substring "KAKA" from string s

cout << s << endl;

/// Copying a substring of a string to a string

tmp = "Gagha Alam Gadha";

s = "Shahriar ";

copy ( tmp.begin()+6, tmp.begin()+10, back\_inserter ( s ) ); /// copying "Alam substring to string s back.

cout << s << endl; /// Shahriar Alam

/// Erasing all occurrence of a specific char from string.

s = "aaassdddaaasdd";

s.erase ( remove ( s.begin(), s.end(), 'a' ), s.end() ); /// removes all 'a' from s

cout << s << endl;

/// Checking is a string is substring of another string in O(n\*m)

s = "ashshasdakks";

if ( s.find( "asd" ) != -1 ) cout << "Substring found";

else cout << "Not found";

return 0;

}

**Output:**

5

abcdf

abcdfbc

hamid

hamid

0

1

1

0

ksdfg

abcdef

abc

abc

Yes Match

Yes Palindrome

dfgs

sgfd

ads

s

a

Hosen

Hosen

CPS Academy

Farhan sadik Sakib

Gazi Mohaimin Iqbal

Maslenia Mubarrat

Muhammad

Nova

Rashedul Alam Anik

d

3

Shahriar

Momo

Sharif

123

323

123

124

Shahriar

Shahriar Alam

ssdddsdd

Substring found

Try the below problems

Link =<https://codeforces.com/problemset/problem/118/A>

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);//cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

string s,s1;

cin>>s;

for(int i=0;i<s.size();i++){

if(s[i]=='a'||s[i]=='e'||s[i]=='i'||s[i]=='o'||s[i]=='u'||s[i]=='A'||s[i]=='E'||s[i]=='I'||s[i]=='O'||s[i]=='U'||s[i]=='y'||s[i]=='Y'){

continue;

}{

s1=s1+'.';

s1+=tolower(s[i]);

}

}

cout<<s1<<endl;

return 0;

}

**Output:**

Codeforces

.c.d.f.r.c.s

Link=<https://www.hackerearth.com/problem/algorithm/the-palindrome-2/description/>

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

int t;

string s,s1;

cin>>t;

while (t--){

cin>>s;

s1=s;

reverse(s1.begin(),s1.end());

if(s==s1) cout<<"Yes"<<endl;

else cout<<"No"<<endl;

}

return 0;

}

**Output:**

4

madam

ab

abba

a

Yes

No

Yes

Yes

Link=<https://practice.geeksforgeeks.org/problems/sum-of-digit-is-pallindrome-or-not2751/1>

*#include <bits/stdc++.h>*

using namespace std;

class Solution {

public:

int isDigitSumPalindrome(int N){

int sum=0;

while (N!=0){

int x=N%10;

sum+=x;

N=N/10;

}

string s,s1;

s=to\_string(sum);

s1=to\_string(sum);

reverse(s.begin(),s.end());

if(s==s1){

return 1;

}else{

return 0;

}

}

};

int main() {

int t;

cin >> t;

while (t--) {

int N;

cin >> N;

Solution ob;

cout << ob.isDigitSumPalindrome(N) << "\n";

}

}

**Output:**

2

11

1

98

0

link=<https://codeforces.com/contest/112/problem/A>

In [ ]:

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

string s,s1;

cin>>s>>s1;

transform(s.begin(),s.end(),s.begin(),::tolower);

transform(s1.begin(),s1.end(),s1.begin(),::tolower);

if(s==s1) cout<<"0"<<endl;

else if(s<s1) cout<<"-1"<<endl;

else cout<<"1"<<endl;

return 0;

}

*#include <bits/stdc++.h>*

using namespace std;

int main()

{

char a[100],b[100];

cin>>a>>b;

cout<<stricmp(a,b)<<endl;

return 0;

}

**Output:**

abc

abC

0

Link=<https://codeforces.com/contest/78/problem/A>

*#include <bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

int c1=0,c2=0,c3=0;

string s1,s2,s3;

getline(cin,s1);

getline(cin,s2);

getline(cin,s3);

for(int i=0;i<s1.size();i++){

if(s1[i]=='a'||s1[i]=='e'||s1[i]=='i'||s1[i]=='o'||s1[i]=='u'){

c1++;

}

}

for(int i=0;i<s2.size();i++){

if(s2[i]=='a'||s2[i]=='e'||s2[i]=='i'||s2[i]=='o'||s2[i]=='u'){

c2++;

}

}

for(int i=0;i<s3.size();i++){

if(s3[i]=='a'||s3[i]=='e'||s3[i]=='i'||s3[i]=='o'||s3[i]=='u'){

c3++;

}

}

if(c1==5 && c2==7 && c3==5) cout<<"YES"<<endl;

else cout<<"NO"<<endl;

return 0;

}

**Output:**

on codeforces

beta round is running

a rustling of keys

YES

Link=<https://www.hackerearth.com/problem/algorithm/lexogeek-e6450fb7/description/?layout=old>

*#include<bits/stdc++.h>*

using namespace std;

*#define optimize() ios\_base::sync\_with\_stdio(0);cin.tie(0);cout.tie(0);*

*#define endl '\n'*

int main()

{

optimize();

int t;

cin >> t;

while ( t-- ) {

string s;

cin >> s;

if ( next\_permutation ( s.begin(), s.end() ) ) {

cout << s << endl;

}

else cout << "no answer\n";

}

return 0;

}

**Output:**

3

abcd

adeg

dcba

abdc

adge

no answer