**<https://www.youtube.com/watch?v=IQtdw37KV2I&list=PLoa_roVVsxA1CJu4DsOljb9d7FJkMCynM&index=9>**

**[L1]Class - 9 ( STL Set Practice problems ) [Bangla]**

Class Video link :

[https://youtu.be/IQtdw37KV2I](https://youtu.be/IQtdw37KV2I?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

Discussed topics :

1) STL Set & Practice problems

2) Sets-STL ( Hackerrank )

Link : [https://www.hackerrank.com/challenges/cpp-sets/problem](https://www.hackerrank.com/challenges/cpp-sets/problem?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

My Code : [https://paste.ubuntu.com/p/WQsxSfSX5P/](https://paste.ubuntu.com/p/WQsxSfSX5P/?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

3) C++ STL | Set 6 (set) ( Geeks for Geeks )

Link : [https://practice.geeksforgeeks.org/problems/c-stl-set-6-set/1](https://practice.geeksforgeeks.org/problems/c-stl-set-6-set/1?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

My Code :[https://paste.ubuntu.com/p/SBk6jPvGrF/](https://paste.ubuntu.com/p/SBk6jPvGrF/?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

4) Set Operations ( Geeks for Geeks )

Link : [https://practice.geeksforgeeks.org/problems/set-operations/1](https://practice.geeksforgeeks.org/problems/set-operations/1?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

My Code :[https://paste.ubuntu.com/p/srSvWmRdSp/](https://paste.ubuntu.com/p/srSvWmRdSp/?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

5) A. I Wanna Be the Guy ( Codeforces )

Link : [https://codeforces.com/problemset/problem/469/A](https://codeforces.com/problemset/problem/469/A?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

My Code : [https://codeforces.com/contest/469/submission/89584223](https://codeforces.com/contest/469/submission/89584223?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

6) 217. Contains Duplicate ( LeetCode )

Link : [https://leetcode.com/problems/contains-duplicate/](https://l.facebook.com/l.php?u=https%3A%2F%2Fleetcode.com%2Fproblems%2Fcontains-duplicate%2F%3Ffbclid%3DIwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw&h=AT1lSGQMyAbJiniJn2U3p70hu9EZrU8oyvC1W4sr_ED7pzpiWabzNn-dvf5au5ecs5CqAPy4Z9PlTQ7GrbA-l0kQUSswLGMK-oLoXYk1VMALU7zQJCeIV7_p_j_S&__tn__=-UK-R&c%5B0%5D=AT1Mtc0lxhWxAxOVbg0Pbaxfv3-3P4SkhYlSk7gjhR4xdM3Lqxxn0EUpRIem7yapTGkyvPqHuKJ2YCDyZvOUPBLJ9BhwS4GwiXJIE_EtuBZlMZ7sl9uIUVg48zas3HweHFYtUFrRh7FPUQugBSsM_zXcdg57yrNu6acZLE-9P8vWQuIYGc8iT1xPCA)

My Code : [https://paste.ubuntu.com/p/SvggR3TG5G/](https://paste.ubuntu.com/p/SvggR3TG5G/?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

7) A. Second Order Statistics ( Codeforces )

Link : [https://codeforces.com/problemset/problem/22/A](https://codeforces.com/problemset/problem/22/A?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

My Code : [https://codeforces.com/contest/22/submission/89585212](https://codeforces.com/contest/22/submission/89585212?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

Class Tasks :

1) Sets-STL ( Hackerrank )

Link : [https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzY5Nzc2MTY4/details](https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzY5Nzc2MTY4/details?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

2) C++ STL | Set 6 (set) ( Geeks for Geeks )

Link : [https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzNzgx/details](https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzNzgx/details?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

3) Set Operations ( Geeks for Geeks )

Link : [https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODA4/details](https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODA4/details?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

4) A. I Wanna Be the Guy ( Codeforces )

Link : [https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODM3/details](https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODM3/details?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

5) 217. Contains Duplicate ( LeetCode )

Link : [https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODU0/details](https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODU0/details?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

6) A. Second Order Statistics ( Codeforces )

Link : [https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODc5/details](https://classroom.google.com/u/0/c/MTE2NTUzNTIxNDIx/a/MTQyNzcxNDMzODc5/details?fbclid=IwAR3_AVk3GIc7_ThVoeZVeIHHlPuFIrb_HTpaFD_WHsJbrQy4rKmhmr9BfFw)

**problem link=**[**https://www.hackerrank.com/challenges/cpp-sets/problem**](https://www.hackerrank.com/challenges/cpp-sets/problem)

**code link=**[**https://paste.ubuntu.com/p/WQsxSfSX5P/**](https://paste.ubuntu.com/p/WQsxSfSX5P/)

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

using namespace std;

*#define endl '\n'*

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

int main()

{

optimeze();

set<int>s;

int t;

cin>>t;

**while** (t--){

int y,x;

cin>>y>>x;

**if**(y==1) s.insert(x);

**else** **if**(y==2) s.erase(x);

**else**

**if**(s.count(x)==1)cout<<"Yes"<<endl;

**else** cout<<"No"<<endl;

}

**return** 0;

}

"C:\Users\Md.Hamid Hosen\CLionProjects\untitled\cmake-build-debug\untitled.exe"

8

1 9

1 6

1 10

1 4

3 6

3 14

2 6

3 6

Yes

No

No

Process finished **with** exit code 0

**problem link=**[**https://practice.geeksforgeeks.org/problems/c-stl-set-6-set/1**](https://practice.geeksforgeeks.org/problems/c-stl-set-6-set/1)

**code link=**[**https://paste.ubuntu.com/p/SBk6jPvGrF/**](https://paste.ubuntu.com/p/SBk6jPvGrF/)

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

using namespace std;

void insert(set<int> &s,int x);

void print\_contents(set<int> &s);

void erase(set<int> &s,int x);

int find(set<int> &s,int x);

int size(set<int> &s);

int main() {

// your code goes here

int t;

cin>>t;

**while**(t--)

{

set<int> s;

int q;

cin>>q;

**while**(q--)

{

char c;

cin>>c;

**if**(c=='a')

{

int x;

cin>>x;

insert(s,x);

}

**if**(c=='b')

{

print\_contents(s);

}

**if**(c=='c')

{

int x;

cin>>x;

erase(s,x);

}

**if**(c=='d')

{

int x;

cin>>x;

cout<<find(s,x)<<" ";

}

**if**(c=='e')

cout<<size(s)<<" ";

}

cout<<endl;

}

**return** 0;

}// } Driver Code Ends

/\* You are required to complete below methods \*/

/\*inserts an element x to the set s \*/

void insert(set<int> &s,int x)

{

s.insert ( x );

}

/\*prints the contents of the set s \*/

void print\_contents(set<int> &s)

{

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

}

/\*erases an element x **from** **the** set s \*/

void erase(set<int> &s,int x)

{

s.erase ( x );

}

/\*returns 1 **if** the element x **is**

present **in** set s **else** returns -1 \*/

int find(set<int> &s,int x)

{

**if** ( s.count ( x ) == 1 ) **return** 1;

**else** **return** -1;

}

/\*returns the size of the set s \*/

int size(set<int> &s)

{

**return** s.size();

}

"C:\Users\Md.Hamid Hosen\CLionProjects\untitled\cmake-build-debug\untitled.exe"

1

5

a 1 a 5 e d 5 d 2

2 1 -1

Process finished **with** exit code 0

**problem link=**[**https://practice.geeksforgeeks.org/problems/set-operations/1**](https://practice.geeksforgeeks.org/problems/set-operations/1)

**code link=**[**https://paste.ubuntu.com/p/srSvWmRdSp/**](https://paste.ubuntu.com/p/srSvWmRdSp/)

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

using namespace std;

set<int> setInsert(int arr[],int n); //Function to insert elements of array into a set **and** **return** a set

void setDisplay(set<int>s); //function to print the elements of the set

void setErase(set<int>&s,int x); //function to erase x **from** **set** **if** it exists

// } Driver Code Ends

//User function Template **for** C++

set<int> setInsert(int arr[],int n)

{

set<int>s;

//Your code here to insert arr into s

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

s.insert(arr[i]);

}

**return** s;

}

void setDisplay(set<int>s)

{

//Your code here to display elements of s

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

cout<<endl;

}

void setErase(set<int>&s,int x)

{

//write **if** condition here

**if**(s.count(x)==1){

s.erase(x);

cout<<"erased "<<x;

}**else**{

cout<<"not found";

}

//write **else** condition here

cout<<endl;

}

// { Driver Code Starts.

int main() {

int t;

cin>>t;

**while**(t--)

{

int n;

cin>>n;

int arr[n]; //array of size n

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

cin>>arr[i]; //Input the array

set<int>s=setInsert(arr,n); //call the insert function that returns a set

setDisplay(s);// display the inserted set

int x;

cin>>x; //x element that needs to be erased **from** **set**

setErase(s,x); //**try** to erase x **from** **set**

setDisplay(s); //print the set after erase operation

}

**return** 0;

}

// } Driver Code Ends

1

10

9 8 7 4 4 2 1 1 9 8

1 2 4 7 8 9

1

erased 1

2 4 7 8 9

**problem link=**[**https://codeforces.com/problemset/problem/469/A**](https://codeforces.com/problemset/problem/469/A)

**code link=**[**https://codeforces.com/contest/469/submission/89584223**](https://codeforces.com/contest/469/submission/89584223)

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

using namespace std;

*#define endl '\n'*

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

int main()

{

optimeze();

set<int>s;

int f,p,q;

cin>>f>>p;

**while** (p--){

cin>>q;

s.insert(q);

}

cin>>p;

**while** (p--){

cin>>q;

s.insert(q);

}

**if**(s.size()==f){

cout<<"I become the guy."<<endl;

}**else**{

cout<<"Oh, my keyboard!"<<endl;

}

**return** 0;

}

4

3 1 2 3

2 2 4

I become the guy.

**problem link**[**https://leetcode.com/problems/contains-duplicate/submissions/**](https://leetcode.com/problems/contains-duplicate/submissions/)

**code=**[**https://paste.ubuntu.com/p/SvggR3TG5G/**](https://paste.ubuntu.com/p/SvggR3TG5G/)

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

using namespace std;

*#define endl '\n'*

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

int main()

{

optimeze();

**class** **Solution** {

public:

bool containsDuplicate(vector<int>& nums) {

set<int>s;

**for**(auto u:nums) s.insert(u);

**if**(s.size()==nums.size()){

**return** false;

}**else**{

**return** true;

}

}

};

**return** 0;

}

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

using namespace std;

*#define endl '\n'*

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

int main()

{

optimeze();

**class** **Solution** {

public:

bool containsDuplicate(vector<int>& nums) {

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

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

**if**(s==nums.size()){

**return** false;

}**else**{

**return** true;

}

}

};

**return** 0;

}

**class** **Solution** {

public:

bool containsDuplicate(vector<int>& nums) {

set<int> s;

**for** ( auto u : nums ) {

s.insert ( u );

}

**return** ( s.size () != nums.size());

}

};

Input: [1,2,3,1]

Output: true

**problem link=**[**https://codeforces.com/problemset/problem/22/A**](https://codeforces.com/problemset/problem/22/A)

**code link=**[**https://codeforces.com/contest/22/submission/89585212**](https://codeforces.com/contest/22/submission/89585212)

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

using namespace std;

*#define endl '\n'*

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

int main()

{

optimeze();

int t;

cin>>t;

set<int>s;

**while** (t--){

int a;

cin>>a;

s.insert(a);

}

int x=\*(++s.begin());

**if**(s.count(x)==1){

cout<<x<<endl;

}**else**{

cout<<"NO"<<endl;

}

**return** 0;

}

///In the name of ALLAH

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

using namespace std;

int main()

{

set<int> s;

int n;

cin >> n;

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

int a;

cin >> a;

s.insert ( a );

}

**if** ( s.size() == 1 ) cout << "NO**\n**";

**else** {

cout << \*( ++s.begin() ) << endl;

}

}

"C:\Users\Md.Hamid Hosen\CLionProjects\untitled\cmake-build-debug\untitled.exe"

5

1 2 3 1 1

2

Process finished **with** exit code 0