```cpp
//Gold and Sand
#include<bits/stdc++.h>
using namespace std;
int main()
{
    int t,sum,sum1,i;
    string s;
    cin>>t;
    while(t--)
    {
        cin>>s;
        int c=0;
        stack<char>ss;
        for(i=0;
i<s.size(); i++)
        {

if(s[i]=='.')
            {

continue;
            }

if(s[i]=='<')
            {

ss.push(s[i]);
            }
            else
if(s[i]=='>'&&!ss.empty
())
            {

ss.pop();
                c++;
            }
        }
        cout<<c<<endl;
    }
}


//Find Target Indices
#include<bits/stdc++.h>
using namespace std;
int main()
{
    int t,n,k;
    cin>>t;
    while(t--)
    {
        cin>>n;
        int a[n+8];
        for(int
i=0;i<n;i++)
        {
            cin>>a[i];
        }
        sort(a,a+n);
        cin>>k;
        if
(binary_search(a, a +n,
k))
```

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

if(a[i]==k)
                {

cout<<i<<" ";
                }
            }
            cout<<endl;
        }
        else
        {
            cout<<"no
data"<<endl;
        }
    }
}
//Collect ID from
Google Classroom
#include<bits/stdc++.h>
using namespace std;
int main()
{

    int t;
    cin>>t;
    while(t--)
    {
        string s,s1;
        char c;
        cin>>c;
        getline(cin,s);
        int k=0;
        if(c=='C')
        {
            k=1;
        }
        for(int i=0;
i<s.size(); i++)
        {

if(s[i]=='C')
            {
                k=1;
            }

if(s[i]>='0'&&s[i]<='9'
&&k==1)
            {

s1.push_back(s[i]);

if(s1.size()==6)
                {

break;
                }
            }
        }
        if(!s1.empty())
```

```cpp
        cout<<"C"<<s1<<endl;
    }
}
//Average placed in the
middle
#include<bits/stdc++.h>
using namespace std;
int main()
{
    long long  n,i,j;
    float sum=0,sum1=0;
    cin>>n;
    int a[n+5];
    for(i=0; i<n; i++)
    {
        cin>>a[i];
        sum=sum+a[i];

    }
sum1=floor(sum/floor(n)
);
    int k=((n/2)+1);
    for(i=0; i<n; i++)
    {
        if(i==k-1)
        {

if(a[i]==sum1)
            {

cout<<"Yes"<<endl;
            }
            else
            {

cout<<"No"<<endl;
            }

        }

    }
}
```

```cpp
// Admission Test
#include<bits/stdc++.h>
using namespace std;
struct Admission{
    char ch;
    int num;
    string s;
};

int main(){
    while(1)
    {
        int n;
        cin>>n;
        if(n==0)
            break;
```

```cpp
        vector<Admission> v(n);
        for(int i=0; i<n; i++)
        {
            Admission a;
            cin>>a.ch>>a.num>>a.s;
            v[i]=a;
        }
        int sub=0;
        int t=0,p=0;
        for(int i=0; i<n; i++)
        {
            if(v[i].s=="wrong"){
                sub+=2;
            }
            else if(v[i].s=="right"){
                t++;
                p+=v[i].num;
            }
        }
        int ans = p-sub;
        if(ans<0)
            ans =0;
        cout<<t<<" "<<ans<<endl;

    }
}


Graph Problem
#include<bits/stdc++.h>
#include <deque>
using namespace std;
#define faster
ios::sync_with_stdio(0);
cin.tie(0);cout.tie(0);
#define ff  first
#define ss  second
#define ll  long long int
#define File  freopen("input.txt","r",
stdin);freopen("output.txt","w",
stdout);
#define testCase int tc = 1; cin >>
tc;for(int i = 1;i<=tc;i++)
#define INF 0x7F
#define MIN_INF 0x80
ll lastonebits(int n)
{
 return n&(-n);
}
bool cmp(const pair < int,int >
a,const pair < int,int > b)
{
 // return a.first/a.second >
b.first/b.second; //sort by ratio
 return (a.first * b.second) > (b.first *
a.second);
}
#define yes  cout << "YES" <<
endl;return;
#define no  cout << "NO" <<
endl;return;

vector < int > graph[105500];
```

```cpp
vector < int > ex[105500];
vector  < int > leaf;
int dist[105000];
int vis[100500];
void bfs(int start)
{
 queue < int > qu;
 qu.push(start);
 dist[start] = 0;
 vis[start] = 1;
 while (!qu.empty())
 {
  int node = qu.front();
  qu.pop();
  for(auto i:graph[node])
  {
   if(!vis[i])
   {
    dist[i] = dist[node] + 1;
    vis[i] = 1;
    qu.push(i);
   }
  }
 }
 vector < int > ans;
 for(auto i:leaf)
 ans.push_back(dist[i]);
 sort(ans.begin(),ans.end());
 for(auto i:ans)cout << i << " ";
 cout << endl;

}
void solve()
{
 int node;
 cin >> node;
 for(int i = 0;i<node-1;i++)
 {
  int a,b;
  cin >> a >> b;
 // cout << a << " " << b << endl;
  graph[a].push_back(b);
  graph[b].push_back(a);
  ex[a].push_back(b);
 }
 for(int i = 1;i<=node;i++)
 {
  //cout << ex[i].size() << endl;;
  if(ex[i].size() == 0)
   leaf.push_back(i);
 }
 bfs(1);
 for(int i = 1;i<=node;i++)
 {
  graph[i].clear();
  ex[i].clear();
 }
 leaf.clear();
 memset(dist,0,sizeof(dist));
 memset(vis,0,sizeof(vis));
}
```

```cpp
int main()
{
  faster;
  #ifndef ONLINE_JUDGE
  File
  #endif

  testCase
  {

  //cout << "Case " << i << ": ";
   solve();


  }
  //solve();

}
LCM TRIPLETS
#include<bits/stdc++.h>
#include <deque>
using namespace std;
#define faster
ios::sync_with_stdio(0);
cin.tie(0);cout.tie(0);
#define ff  first
#define ss  second
#define ll  long long int
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ll lastonebits(int n)
{
 return n&(-n);
}
bool cmp(const pair < int,int >
a,const pair < int,int > b)
{
 // return a.first/a.second >
b.first/b.second; //sort by ratio
 return (a.first * b.second) > (b.first *
a.second);
}
#define yes  cout << "YES" <<
endl;return;
#define no  cout << "NO" <<
endl;return;
vector<long long>
trial_division1(long long n) {
    vector<long long> factorization;
    for (long long d = 2; d * d <= n;
d++) {
        while (n % d == 0) {
            factorization.push_back(d);
            n /= d;
        }
    }
    if (n > 1)
        factorization.push_back(n);
```

```cpp
    return factorization;
}

void solve()
{
  ll n;
  cin >> n;
  vector <ll > ans =
trial_division1(n);
  if(ans.size() == 3)
  {
   set < ll  > s;
   for(auto i:ans)s.insert(i);
   if(s.size() == 3)
   {
    for(auto i:s)cout << i << " ";
    cout << endl;
   }
   else cout << -1 << endl;
   return;
  }
   cout << -1 << endl;
}

int main()
{
  faster;
  #ifndef ONLINE_JUDGE
  File
  #endif

  testCase
  {

   //cout << "Case " << i << ": ";
   solve();

  }
  //solve();

}
```

Exam Seat Plan
```cpp
#include<bits/stdc++.h>
#include <deque>
using namespace std;
#define faster
ios::sync_with_stdio(0);
cin.tie(0);cout.tie(0);
#define ff  first
#define ss  second
#define ll  long long int
#define File  freopen("input.txt","r",
stdin);freopen("output.txt","w",
stdout);
#define testCase int tc = 1; cin >>
tc;for(int i = 1;i<=tc;i++)
#define INF 0x7F
#define MIN_INF 0x80
ll lastonebits(int n)
{
  return n&(-n);
}
bool cmp(const pair < int,int >
a,const pair < int,int > b)
{
 // return a.first/a.second >
b.first/b.second; //sort by ratio
 return (a.first * b.second) > (b.first *
a.second);
}
#define yes  cout << "YES" <<
endl;return;
#define no  cout << "NO" <<
endl;return;
vector<long long>
trial_division1(long long n) {
    vector<long long> factorization;
    for (long long d = 2; d * d <= n;
d++) {
        while (n % d == 0) {
            factorization.push_back(d);
            n /= d;
        }
    }
    if (n > 1)
        factorization.push_back(n);
    return factorization;
}

void solve()
{
  int n;
  cin >> n;
  vector < int > arr;
  for(int i = 0;i<n;i++)
  {
   int a;
   cin >> a;
   arr.push_back(a);
  }
  int count= 0;
  set < int > b;
  for(int i= 0;i<n-1;i++)
  {
   if(arr[i] + 1 == arr[i + 1])
   {
    b.insert(arr[i]);
    b.insert(arr[i + 1]);
   }
  }
  for(int i= n-1;i>0;i--)
  {
   if(arr[i] + 1 == arr[i - 1])
   {
    b.insert(arr[i]);
    b.insert(arr[i - 1]);
```
```cpp
   }
  }
  if(b.size() > 0)
  {
   cout << b.size() << endl;
   return;
  }
  cout << "OK" << endl;
}

int main()
{
  faster;
  #ifndef ONLINE_JUDGE
  File
  #endif

 //  testCase
 //  {

 //  //cout << "Case " << i << ": ";
 //    solve();

 //  }
  solve();

}
```