

Bai1:

Cach1:

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

```
using namespace std;
```

```
const long long MOD = 1000000007;
```

```
int cnt[1000002];
```

```
int gcd(int a, int b){
```

```
    if(b==0) return a;
```

```
    return gcd(b,a%b);
```

```
}
```

```
int main(){
```

```
    int TC; cin>> TC;
```

```
    while(TC--){
```

```
        int n; cin>>n;
```

```
        int a[n];
```

```
        for(int i=0;i<n;i++) cin >> a[i];
```

```
        int res=1;
```

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

```
            for(int j=i+1;j<n;j++){
```

```
                res = max(res,gcd(a[i],a[j]));
```

```
            }
```

```
        }
```

```
        cout << res << endl;
```

```
    }
```

```
    return 0;
```

```
}
```

Cach2:

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

```
using namespace std;
```

```
const long long MOD = 1000000007;
```

```
int cnt[1000002];
```

```
map<int,int> mp;
```

```
int gcd(int a, int b){
```

```
    if(b==0) return a;
```

```
    return gcd(b,a%b);
```

```
}
```

```
void solve(int n){    //ham phan tich thua so nguyen to
```

```
    for(int i=1;i<=sqrt(n);i++){
```

```
        if(n%i==0){
```

```
            mp[i]++;
```

```

        if(i!=n/i) mp[n/i]++;
    }
}
}
int main(){
    int TC; cin>> TC;
    while(TC--){
        int n; cin>>n;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
            solve(a[i]);
        }
        int res=1;
        for(auto it :mp){
            if(it.second>=2){
                res=it.first;
            }
        }
        cout << res << endl;
    }
    return 0;
}
Bai2:
cach1
#include <bits/stdc++.h>
using namespace std;

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

void solve(int n){    //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}
}

```

```

int main(){
    int TC; cin>> TC;
    while(TC--){
        int n; cin>>n;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
            solve(a[i]);
        }
        int dem=0;
        for(auto it :mp){
            if(it.second>=n){
                ++dem;
            }
        }
        cout << dem-1 << endl;
        mp.clear();
    }
    return 0;
}

```

Cach2:

```

#include <bits/stdc++.h>
using namespace std;

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

void solve(int n){    //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}

int main(){
    int TC; cin>> TC;
    while(TC--){

```

```

    int n; cin>>n;
    int a[n];
    for(int i=0;i<n;i++){
        cin >> a[i];
    }
    int res=0;
    for(int i=0; i<n;i++){
        res=gcd(res,a[i]);
    }
    if(res==1){
        cout <<0 << endl; continue;
    }
    int ans=0;
    for(int i=1;i<=sqrt(res);i++){
        if(res%i==0){
            ++ans;
            if(i!=res/i) ++ans;
        }
    }
    cout << ans << endl;
}
return 0;
}

```

Bai03:

```

#include <bits/stdc++.h>
using namespace std;

```

```

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

```

```

void solve(int n){ //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}
}

```

```

int main(){
    int TC; cin>> TC;
    while(TC--){
        int n; cin>>n;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
        }
        long long sum=0;
        for(int i=0;i<n;i++){
            sum+=a[i];
        }
        int left=0;
        for(int i=0;i<n;i++){
            sum-=a[i];
            if(sum==left){
                cout<<i<<" ";
            }
            left+=a[i];
        }
        cout << "-1\n";
    }
    return 0;
}

```

Bai04:

Cach1:

```

#include <bits/stdc++.h>
using namespace std;

```

```

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

```

```

void solve(int n){ //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}

```

```

    }
}
int main(){
    int TC; cin>> TC;
    while(TC--){
        int n; cin>>n;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
        }
        int ans=a[0];
        for(int i=1;i<n;i++){
            ans^= a[i]; //Phep XOR
        }
        cout<< ans<<endl;
    }
    return 0;
}

```

Cach2:

```

#include <bits/stdc++.h>
using namespace std;

```

```

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
map<int,int> mp2;

```

```

int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

```

```

void solve(int n){ //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}

```

```

int main(){
    int TC; cin>> TC;

```

```

while(TC--){
    int n; cin>>n;
    int a[n];
    for(int i=0;i<n;i++){
        cin >> a[i];
        mp2[a[i]]++;
    }
    int res=0;
    for(auto it:mp2){
        if(it.second%2==1){
            res=it.first;
        }
    }
    cout<<res<<endl;
    mp2.clear();
}
return 0;
}
Bai15:
#include <bits/stdc++.h>
using namespace std;

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
map<int,int> mp2;

int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

void solve(int n){ //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}

int main(){
    int TC=1;
    while(TC--){

```

```

        int n; cin>>n;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
        }
        int res=1; int dem=1;
        for(int i=1;i<n;i++){
            if(a[i]==a[i-1]) dem++;
            else dem=1;
            res= max(res,dem);
        }
        cout << n-res<<endl;

        mp2.clear();
    }
    return 0;
}

```

Bai16:

```

#include <bits/stdc++.h>
using namespace std;

```

```

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
map<int,int> mp2;

```

```

int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

```

```

void solve(int n){    //ham phan tich thua so nguyen to
    for(int i=1;i<=sqrt(n);i++){
        if(n%i==0){
            mp[i]++;
            if(i!=n/i) mp[n/i]++;
        }
    }
}

int main(){
    int TC=1;

```



```

while(TC--){
    int n,m; cin>>n>>m;
    int a[n];
    for(int i=0;i<n;i++){
        cin >> a[i];
    }
    int pos[101];
    for(int i=0; i<m; i++){
        int x; cin>>x;
        pos[x-1]=1;
    }
    for(int i=0;i<n;i++){
        if(pos[i]==0) continue;
        int index =i;
        while(index<n && pos[index]){
            ++index;
        }
        sort(a+i,a+index+1);
        i=index;
    }
    bool ok = true;
    for(int i=0;i<n;i++){
        if(a[i]> a[i+1]){
            ok = false; break;
        }
    }
    if(ok) cout << "YES\n";
    else cout << "NO\n";
}
return 0;
}

```

Bai17:

```

#include <bits/stdc++.h>
using namespace std;

```

```

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
map<int,int> mp2;

```

```

int gcd(int a, int b){
    if(b==0) return a;
}

```

```

        return gcd(b,a%b);
    }

    void solve(int n){    //ham phan tich thua so nguyen to
        for(int i=1;i<=sqrt(n);i++){
            if(n%i==0){
                mp[i]++;
                if(i!=n/i) mp[n/i]++;
            }
        }
    }
}

```

```

int main(){
    int TC=1;
    while(TC--){
        int n,c; cin>>n>>c;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
        }
        int dem=1;
        for(int i=1;i<n;i++){
            if(a[i]-a[i-1]<=c) ++dem;
            else dem=1;
        }
        cout<<dem<<endl;
    }
    return 0;
}

```

Bai18:

```

#include <bits/stdc++.h>
using namespace std;

```

```

const long long MOD = 1000000007;
int cnt[1000002];
map<int,int> mp;
map<int,int> mp2;

```

```

int gcd(int a, int b){
    if(b==0) return a;
    return gcd(b,a%b);
}

```

```

void solve(int n){    //ham phan tich thua so nguyen to

```

```

        for(int i=1;i<=sqrt(n);i++){
            if(n%i==0){
                mp[i]++;
                if(i!=n/i) mp[n/i]++;
            }
        }
    }
}

int main(){
    int TC;cin>>TC;
    while(TC--){
        int n; cin>>n;
        int a[n];
        for(int i=0;i<n;i++){
            cin >> a[i];
        }
        sort(a,a+n);
        if(n%2==1) cout << a[n/2];
        else cout<< a[n/2 -1];
    }
    return 0;
}

```