

# Team Notebook of Lightning Legacy

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## Contents

### 1 Quote

### 2 Contest

#### 2.1 Template . . . . . 1

#### 2.2 Pragma Optimization . . . . . 1

#### 2.3 OSRank in g++ . . . . . 2

**ALL BELOW HERE IS USEFUL ONLY IF YOU GET THE IDEA RIGHT**

### 1 Quote

Think Twice, Code Once!!!

RKS\_The\_Great: Mind, pen and paper to the rescue.

MaddyThakker: Nymphomaniac and Mathmaniac: anything more required?

utkarsh04: Proness in Blood!

### 2 Contest

#### 2.1 Template

```
// compile : g++ -o PROB PROB.cpp -std=c++11 -Wall -O2
// options : -fsanitize=address -Wfatal-errors -Wl,--stack=256000000
#include <bits/stdc++.h>
using namespace std;
using lint = long long;
using pii = pair<int, int>;
inline int read() {
    int x = 0, f = 1; char ch = getchar();
    while (ch < '0' || ch > '9') if (ch == '-') f = -1, ch = getchar();
    while (ch >= '0' && ch <= '9') x = x * 10 + ch - '0', ch = getchar();
    return x * f;
}
auto seed = std::chrono::high_resolution_clock::now().time_since_epoch().count();
std::mt19937 mt(seed);
#define MN 100005
int main() {
    return 0;
}
```

#### 2.2 Pragma Optimization

```
#pragma comment(linker, "/stack:200000000") // works only with MS Visual C++
#pragma GCC optimize("Ofast")
```

```
#pragma GCC target("sse,sse2,sse3,ssse3,sse4,popcnt,abm,mmx,avx,tune=native")
// also better to use a[i] -= a[i] > x ? x : 0; rather than if (a[i] > x) a[i] -= x;
```

### 2.3 OSRank in g++

```
#include <ext/pb_ds/assoc_container.hpp>
#include <ext/pb_ds/tree_policy.hpp>
using namespace __gnu_pbds;
typedef
tree<int, null_type, less<int>, rb_tree_tag, tree_order_statistics_node_update>
ordered_set;
ordered_set X;
X.insert(1); X.insert(2); X.insert(4); X.insert(8); X.insert(16);
cout<<*X.find_by_order(1)<<endl; // 2
cout<<*X.find_by_order(2)<<endl; // 4
cout<<*X.find_by_order(4)<<endl; // 16
cout<<(end(X)==X.find_by_order(6))<<endl; // true
cout<<X.order_of_key(-5)<<endl; // 0
cout<<X.order_of_key(1)<<endl; // 0
cout<<X.order_of_key(3)<<endl; // 2
cout<<X.order_of_key(4)<<endl; // 2
cout<<X.order_of_key(400)<<endl; // 5
```