Orac and LCM

题目链接https://codeforc.es/contest/1350/problem/C

题意

给定长为 n ($2≤n≤10^5$)的正整数序列{s_1,s_2,...,s_n}，求由任意两元素 LCM（最小公倍数）组成新序列{a_1,a_2,...,a_n}(1$≤$a_i$≤2*10^5$)的 GCD（最大公约数），即LCM(GCD(s_i,s_j))($i ≤j$)

题解

将答案 ans 质因数分解，有 $ans =$ $p_1^{k1}p_2^{k2}...p_m^{km}$

AC代码

```
#include<bits/stdc++.h>
using namespace std;
typedef long long ll;

const ll mod = 998244353;
const int maxn = 2e5 + 5;

vector<int> ep[maxn];

ll qpow(int k, ll b){
    ll res = 1;
    while(b){
        if(b & 1) res *= k;
        k *= k;
        b >>= 1;
    }
    return res;
}

int main(){
    int n;    scanf("%d", &n);
    for(int i = 1; i <= n; i++){
        int t;    scanf("%d", &t);
        for(int i = 2; i * i <= t; ++i){
            ll cnt = 0;
            while(t % i == 0){
                t /= i;
                ++cnt;
```

```
            }
            ep[i].push_back(cnt);
        }
        if(t != 1) ep[t].push_back(1);
    }

    ll ans = 1;
    for(int i = 1; i <= maxn; ++i){
        if(ep[i].size() >= n - 1){
            sort(ep[i].begin(), ep[i].end());
            if(ep[i].size() == n) ans *= qpow(i, ep[i][1]);
            else ans *= qpow(i, ep[i][0]);
        }
    }
    printf("%lld", ans);
}
```