一、质因数分解

#include<bits/stdc++.h>

using namespace std;

int f[10000], prime[10000], k;

void is\_prime(int n) {

k = 0;

for (int i = 2; i <= n; i++){

if (f[i] == 0) prime[++k] = i;

for (int j = 1; j <= k && i \* prime[j] <= n; j++){

f[i \* prime[j]] = 1;

if (i % prime[j] == 0) break;

}

}

}

long long mi(int x, int y){

if (y == 0) return 1;

long long t = mi(x, y / 2);

if (y % 2 == 1) return x \* t \* t;

else return t \* t;

}

int main(){

int a, b, num1[10000], num2[10000], num3[10000];

long long ans;

cin >> a >> b;

memset(f, 0, sizeof(f));

is\_prime(10000);

memset(num1, 0, sizeof(num1));

memset(num2, 0, sizeof(num2));

for (int i = 1; i <= k && prime[i] <= a; i++)

while (a % prime[i] == 0){

a = a / prime[i];

num1[i]++;

}

for (int i = 1; i <= k && prime[i] <= b; i++)

while (b % prime[i] == 0){

b = b / prime[i];

num2[i]++;

}

ans = 1;

for (int i = 1; i <= 10000; i++) ans \*= mi(prime[i], min(num1[i], num2[i]));

cout << ans << endl;

}

二、辗转相除法

#include<bits/stdc++.h>

using namespace std;

int gcd(int a, int b){

return (a % b == 0) ? b : gcd(b, a % b);

}

int main(){

int a, b, t;

cin >> a >> b;

if (a < b) { t = a; a = b; b = t;}

cout << gcd(a, b) << endl;

return 0;

}

