GCD & LCM Friendship!!

Given three integers **x, y, z,** calculate the following efficiently:

**GCD( LCM(x, y), LCM(x, z) ) .**

**Where, GCD =Greatest Common Divisor, LCM = Least Common Multiple**

Examples:

Input: x = 15, y = 20, z = 100

Output: 60

Input: x = 30, y = 40, z = 400

Output: 120

**We strongly recommend you to minimize your browser and try this yourself first.**

**Explanation and Approach: -**

**Approach (1): -** One way to solve it is by finding GCD (x, y) and using it, we find LCM (x, y).

Similarly, we find LCM (x, z) and then we finally find the GCD of the obtained results.

**Approach (2): -**

The following versions of [distributivity](https://en.wikipedia.org/wiki/Distributivity" \o "Distributivity) hold true:

**LCM (x, GCD (y, z))** = **GCD (LCM (x, y), LCM (x, z)).**

This reduces our work to compute the given problem statement.

Below is C++ implementation of above .

// C++ program for above approach

#include<iostream>

#include<bits/stdc++.h>

using namespace std;

int main()

{

int x, y, z;

x = 30, y = 40, z = 400;

int r1 = \_\_gcd(b,c);

printf("%d\n",(a\*r1)/\_\_gcd(a,r1));

return 0;

}

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