

nth number

Given two numbers a, b you have to find nth number which is divisible by a or b

Input

first line contains an integer t , denoting number of test cases .

second line contains 3 positive integers a,b,n

Output

print nth number in a new line.

Example

Input:

1

2 3 10

Output:

15

t <= 100000

a,b <= 10000

n <= 1000000000