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好评 [+31]

ICPC亚洲区域赛银川赛站网络预选赛

E. Crypto System

Time Limit: 1 s **Memory Limit: 32 MB**

统计 (/contest/1/problem/5/statistics)

描述 提交 返回比赛 (/contest/1)

Description

RSA is a well known crypto system. It works as follows. First of all, we have to find two large prime numbers, namely, p and q. Then we set two positive integers, s and t are satisfied s*t*≡*1 MOD ((p-1)*(q-1)), that is, s*t=(p-1)*(q-1)*k+1, with k being an integer. Now given r (r=p*q) and s, we can encrypt all positive integers which are smaller than r. Suppose the number before encryption is n and the number after encryption is m, m≡(n^s)mod(r).

Now, giving r, t and m, you are supposedto calculate n.

It is guaranteed that there is exactly one answer for each test case.

Input

Each test case has three integers on a single line. They are given in the order r(4<=r<2^31-1), t(1<=t<=3e10) and m(1<=m<=3e11). The condition below is satisfied: 2<=p, q<=50000, 1<=k<=100.

There are multiple test cases. Proceed to the end of file.

Output

For each test case, print the value of n on a single line.

Examples

input :

```
851 317 32
851 233 4273
```

output :

```
2
2
```

HINT

For both test cases, the value of p and q are 37 and 23.

 (http://112.126.101.92/contest/1/problem/5?locale=zh-cn)  (http://112.126.101.92/contest/1/problem/5?locale=en)

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