
Modular exponentiation

P29212_en

Write a program that, given n , k and m , computes $n^k \bmod m$.

Input

Input consists of several cases, each one with three natural numbers n , k and m . Assume $2 \leq n \leq 30000$ and $2 \leq m \leq 30000$.

Output

For every case, print $n^k \bmod m$.

Sample input

```
2 10 10000
2 10 2
7 1000000 29999
7 1000000 30000
30000 1000000000 29876
```

Sample output

```
1024
0
7959
1
5336
```

Problem information

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