Integers Come In All Sizes

Problem Statement

Integers in Python can be as big as the bytes in your machine's memory. There is no limit of $2^{31} - 1$ (c++ int) or $2^{63} - 1$ (C++ long long int). Let's try this out.

As we know, the result of a^b grows really fast with increasing b.

We will do some calculations on very large integers.

Task

Read four numbers, a, b, c, and d, and print the result of $a^b + c^d$.

Input Format

Four numbers are given on four lines.

Constraints

$1 \leq a \leq 1000$
$1 \leq b \leq 1000$
$1 \leq c \leq 1000$
$1 \leq d \leq 1000$

Output Format

Print the result in one line.

Sample Input

```
9
29
7
27
```

Sample Output

```
4710194409608608369201743232
```

Note that this result is bigger than $2^{63} - 1$ and hence won't fit in long long int of C++ or a 64-bit integer.