## Integers Come In All Sizes

Integers in Python can be as big as the bytes in your machine's memory. There is no limit in size as there is: $2^{31}-1(\mathrm{c}++\mathrm{int})$ or $2^{63}-1(\mathrm{C}++$ long long int $)$.

As we know, the result of $a^{b}$ grows really fast with increasing $b$.
Let's 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

Integers $a, b, c$, and $d$ are given on four separate lines, respectively.

## 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 of $a^{b}+c^{d}$ on one line.

## Sample Input

```
9
29
7
2 7
```


## Sample Output

## 4710194409608608369201743232

Note: This result is bigger than $2^{63}-1$. Hence, it won't fit in the long long int of $\mathrm{C}++$ or a 64 -bit integer.

