

# Exponentiation

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[oj.dcs.upd.edu.ph/problem/exponentiation](https://oj.dcs.upd.edu.ph/problem/exponentiation)

## Problem Statement

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Given two nonnegative integers  $a$  and  $b$ , compute the last 1111 digits of  $a^b$ .

Note that for this problem,  $0^0 = 10^0 = 1$ .

## Task Details

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Your task is to implement a function named `pow_digits`, which should look like this:

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```
def pow_digits(a, b):  
    return ...
```

Here, you only need to replace the `...` part with a **Python expression**.

The function must return a string denoting the answer.

Your source code must have at most 200200 bytes.

## Examples

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### Example 1 Function Call

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```
pow_digits(3, 2)
```

### Example 1 Return Value

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```
"00000000009"
```

## Constraints

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- The function `pow_digits` will be called at most  $10^4$  times.

- $0 \leq a \leq 10200 \leq a \leq 10^{20}$
- $0 \leq b \leq 10200 \leq b \leq 10^{20}$

## Scoring

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**Note:** New tests may be added and all submissions may be rejudged at a later time. (All future tests will satisfy the constraints.)

- You get 5050  points if you solve all test cases where:
  - $b \leq 2b \leq 2$
- You get 5050  points if you solve all test cases where:
  - There are no zero digits in  $aa$ .
  - $b = 1b = 1$
- You get 5050  points if you solve all test cases where:
  - $a \leq 104a \leq 10^4$
  - $b \leq 100b \leq 100$
- You get 5050  points if you solve all test cases.

[Report an issue](#)

## Clarifications

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No clarifications have been made at this time.