**Finding Mod**

Time Limit: 1 Seconds

The following problem is well-known: given integers *n* and *m*, calculate

https://codeforces.com/predownloaded/8c/16/8c162c13d125617f9f17a4c4b984fb00fb6d7df4.png

where 2*n* = 2·2·...·2 (*n* factors), and https://codeforces.com/predownloaded/90/40/9040b07e93fa8e5754bbe20f688814e3891511e3.png denotes the remainder of division of *x* by *y*.

You are asked to solve the another similar problem. Given integers *n* and *m*, calculate

**(n to the power m)%(1e9+7)**.

**Input**

The first line contains a single integer *T* (1 ≤ *T* ≤ 100) denoting the number of test cases.

Next **T** lines contains the two numbers **n** and **m** (1 ≤ *n, m* ≤ 109).

**Output**

Output will be a single integer.

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| **Sample Input:**  2  200 30  123456789 87654321 | **Sample Output:**  503443231  765038616 |

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