Problem 1. n^k

Problem Statement

Get two integers n and k and compute n^k mod 20170317.

Input Statement

First line contains t which is the number of testcases.
Each 2nd,..., $t + 1$-th line contains a test case consisting of two integers n and k ($0 \leq n, k < 2^{32}$).

Output Statement

The program should print n^k mod 20170317 for each input.
Each output should be separated by empty line.

Input Example

4
2 4
5 10
10 20
1 2147483647

Output Example

16
9765625
2451835
1