Problem B. X 1s and Y 0s

OS Linux

Given two numbers X and Y, find the number whose binary representation has X 1's followed by Y 0's.

Input Format

First line of input contains T - number of test cases. Its followed by T lines. Each subsequent line contains two integers separated by a space: X - the number of the 1's and Y - the number of 0's which follows the X 1's in the binary representation of the number.

Constraints

10 points
1 <= T <= 100
0 <= X, Y <= 15

40 points

1 <= T <= 10^5

0 <= X, Y <= 10^5

Output Format

For each test case, print the number whose binary representation has X 1's and Y 0's, separated by a new line.
Since this number can be very large, print the result % 1000000007.

Sample Input 0

```
3
4 3
2 5
10 15
```

Sample Output 0

```
120
96
33521664
```

Explanation 0

Test Case 1

The binary representation of the number that has 4 ones followed by 3 zeros is 1111000 = 120.