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Counting Permutations

Time Limit: 2000/1000 MS (Java/Others)   Memory Limit: 32768/32768 K (Java/Others)
Total Submission(s): 0   Accepted Submission(s): 0

Problem Description

When Tonyfang was studying monotonous queues, he came across the following problem:

For a permutation of length n $a_1, a_2 \ldots a_n$, define l_i as maximum x satisfying $x < i$ and $a_x > a_i$, or 0 if such x not exists, r_i as minimum x satisfying $x > i$ and $a_x > a_i$, or n+1 if not exists. Output $\sum_{i=1}^{n} \min(i - l_i, r_i - i)$.

Obviously, this problem is too easy for Tonyfang. So he thought about a harder version:

Given two integers n and x, counting the number of permutations of 1 to n which $\sum_{i=1}^{n} \min(i - l_i, r_i - i) = x$ where l and r are defined as above, output the number mod P.

Tonyfang solved it quickly, now comes your turn!

Input

In the first line, before every test case, an integer P.
There are multiple test cases, please read till the end of input file.
For every test case, a line contain three integers n and x, separated with space.
$1 \le n \le 200, 1 \le x \le 10^9$. P is a prime and $10^8 \le P \le 10^9$, No more than 10 test cases.

Output

For every test case, output the number of valid permutations modulo P.

Sample Input

```
998244353
3 4
3 233
```

Sample Output

```
2
0
```

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