Problem F

John and Brus are studying string theory at the university. Their task is to create a list of all the palindromes that contain between 1 and n lowercase letters ('a'-'z'), inclusive. A palindrome is a string that reads the same forward and backward. Additionally, each palindrome in their list must contain no more than k distinct letters. Return the number of palindromes in the list modulo 1234567891.

The first line of the input contains t, the number of test cases, followed by $2 \cdot t$ lines. Each test case is represented by two integers n and k.

Restrictions:

- $1 \leq n \leq 1.000.000.000$
- $1 \leq k \leq 26$

Example:

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Input:
2
2
10
44
7

Output:
52
240249781
```

In the first case we have single and double character palindromes.