Some people believe that 13 is an unlucky number. So they always want to avoid the number 13. But I believe that 7 is an unlucky number and want to avoid it. So unlucky number is different for man to man. If 13 is an unlucky number and in a number there is no 13 (i.e. no '1' is followed by a '3') then we can call it a lucky number. For example, if we consider 13 as an unlucky number then 12345 is a lucky number. But if any number contains 13 then it is not a lucky number, such as 13254 and 21345 are not lucky numbers. Given the number of digits N in a number and the unlucky number M, you have to find out how many lucky numbers are possible with N digits considering that M is unlucky number. Note that leading 0's are not allowed. So, 011 is not a valid three digit number.

Input

The first line of the input file contains an integer T ($T \leq 1000$) which denotes the total number of test cases. The description of each test case is given below:

Two positive integers N ($1 \leq N \leq 100$), M ($1 \leq M \leq 10^{100}$).

Output

For each test case print the number of lucky numbers of N digits considering that M is the unlucky number. The result may be very large. You have to output the result *modulo* 10000007.

Sample Input

```
3
1 3
2 13
2 1
```

Sample Output

```
9
89
72
```