CODEFORCES
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E. Binary String Wowee

time limit per test: 2 seconds
memory limit per test: 256 megabytes

Mouf is bored with themes, so he decided not to use any themes for this problem.

You are given a binary* string s of length n. You are to perform the following operation exactly k times:

- select an index i ($1 \le i \le n$) such that $s_i = 0$;
- then flip† each s_j for all indices j ($1 \le j \le i$).

You need to count the number of possible ways to perform all k operations.

Since the answer could be ginormous, print it modulo $998\,244\,353$.

Two sequences of operations are considered different if they differ in the index selected at any step.

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*A binary string is a string that consists only of the characters 0 and 1.

†Flipping a binary character is changing it from 0 to 1 or vice versa.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \le t \le 100$). The description of the test cases follows.

The first line of each test case contains two integers n and k ($1 \le k \le n \le 500$) — the length of the binary string s and the number of times the operation must be performed, respectively.

The second line of each test case contains a binary string s of length n consisting of only characters 0 and 1.

It is guaranteed that the sum of n does not exceed 500 over all test cases.

Output

For each test case, output a single integer — the number of ways you can perform exactly k operations, modulo $998\,244\,353$.

Example

```
input                                    Copy
5
3 1
010
3 2
000
5 4
01001
8 8
11001100
20 20
10010110101101010110
```

```
output                                   Copy
2
3
10
27286
915530405
```

Note

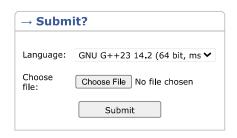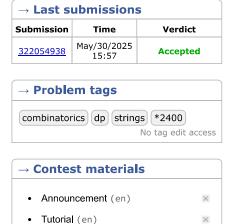In the first test case, here are all the possible sequences of operations:

- $010 \xrightarrow{i=1} 110$
- $010 \xrightarrow{i=3} 101$

In the second test case, here are all the possible sequences of operations:

- $000 \xrightarrow{i=1} 100 \xrightarrow{i=2} 010$
- $000 \xrightarrow{i=1} 100 \xrightarrow{i=3} 011$
- $000 \xrightarrow{i=2} 110 \xrightarrow{i=3} 001$