G. Lucky Tickets

time limit per test: 5 seconds
memory limit per test: 256 megabytes

All bus tickets in Berland have their numbers. A number consists of n digits (n is even). Only k decimal digits $d_1, d_2, \ldots, d_k$ can be used to form ticket numbers. If 0 is among these digits, then numbers may have leading zeroes. For example, if $n = 4$ and only digits 0 and 4 can be used, then 0000, 4004, 4440 are valid ticket numbers, and 0002, 00, 44443 are not.

A ticket is lucky if the sum of first $n/2$ digits is equal to the sum of remaining $n/2$ digits.

Calculate the number of different lucky tickets in Berland. Since the answer may be big, print it modulo 998244353.

Input

The first line contains two integers n and k $(2 \le n \le 2 \cdot 10^5, 1 \le k \le 10)$ — the number of digits in each ticket number, and the number of different decimal digits that may be used. n is even.

The second line contains a sequence of **pairwise distinct** integers $d_1, d_2, \ldots, d_k$ $(0 \le d_i \le 9)$ — the digits that may be used in ticket numbers. The digits are given in arbitrary order.

Output

Print the number of lucky ticket numbers, taken modulo 998244353.

Examples

input Copy

```
4 2
1 8
```

output Copy

```
6
```

input Copy

```
20 1
6
```

output Copy

```
1
```

input Copy

```
10 5
6 1 4 0 3
```

output Copy

```
569725
```

input Copy

```
1000 7
5 4 0 1 8 3 2
```

output Copy

```
460571165
```

Note

In the first example there are 6 lucky ticket numbers: 1111, 1818, 1881, 8118, 8181 and 8888.

There is only one ticket number in the second example, it consists of 20 digits 6. This ticket number is lucky, so the answer is 1.

Educational Codeforces Round 57 (Rated for Div. 2)

Finished

Practice

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win

Choose file: Choose File No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
324270150	Jun/13/2025 18:25	Accepted
324269675	Jun/13/2025 18:21	Accepted
324263260	Jun/13/2025 17:33	Accepted
324032093	Jun/12/2025 15:22	Accepted
323964472	Jun/12/2025 02:42	Time limit exceeded on test 36
323964284	Jun/12/2025 02:34	Time limit exceeded on test 36
323964278	Jun/12/2025 02:34	Compilation error
323964218	Jun/12/2025 02:32	Time limit exceeded on test 36
323964169	Jun/12/2025 02:30	Time limit exceeded on test 36
323964121	Jun/12/2025 02:29	Time limit exceeded on test 13

→ Problem tags

divide and conquer dp fft *2400

No tag edit access

→ Contest materials

- Announcement (ru)
- Tutorial (ru)