

Brackets Parade

Count the number of different correct bracket sequences consisting of k_1 pairs of brackets of the 1st type, k_2 pairs of brackets of the 2nd type, ..., k_m pairs of brackets of the m -th type. The bracket sequence is considered correct in the following cases:

- empty sequence is correct;
- if A is correct and B is correct then AB is correct;
- if A is correct then $(;A);$ is correct where $(;$ and $);$ are opening and closing brackets of the same type.

Input

The first line of input is the number $0 < n \leq 1000$ of test cases. Each of the following n lines describe a test case. Each line starts with number $0 < m \leq 100$ the amount of different bracket types. Then m positive numbers k_1, k_2, \dots, k_m follow each separated with a space. Number k_i is the amount of pairs of brackets of i -th type. The total amount of pairs of brackets is not greater than 1000.

Output

For each test case output a line containing single integer – the answer to the problem modulo 1000000007.

Example

Input:

```
3
1 4
2 2 2
3 1 2 3
```

Output:

```
14
84
7920
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