Two coins of each kind (2) P52074_en

Examen parcial d'Algorísmia, FME (2014-11-14)

Given a natural number x and n different coin values $c_1 \ldots c_n$, compute in how many ways it is possible to achieve change x by using each value at most twice. Here, two coins with the same value are considered different.

For example, if $x = 4$ and the available values are 1 and 2, then there are three ways to achieve it: $1 + 1' + 2$, $1 + 1' + 2'$, and also $2 + 2'$.

Input

Input consists of several cases. Every case begins with x and n, followed by $c_1 \ldots c_n$. Assume $1 \leq n \leq 1000$, $1 \leq c_i \leq x \leq 1000$, and that all c_i are different.

Output

For every case, print the number of ways to exactly achieve change x by using each value at most twice. Since the result can be huge, make the computations modulo $10^8 + 7$.

Sample input

```
4 2  1 2
400 1  200
400 1  300
5 3  4 2 1
5 5  1 2 3 4 5
120 29
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
17 18 19 20 21 22 23 24 25 26 27 28 29
```

Sample output

```
3
1
0
6
14
36982290
```

Problem information

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Generation : 2024-05-02 18:57:57