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**Two coins of each kind (3)****X92609\_en**

Given a number  $x$  and  $n$  different coin values  $c_1 \dots c_n$ , 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 equal.

For example, if  $x = 4$  and the available values are 1 and 2, then there are two ways to achieve it:  $1 + 1 + 2$  and  $2 + 2$ . As another example, if  $x = 5$  and the available values are 1, 2, 3, 4 and 5, then there are five ways:  $1 + 1 + 3$ ,  $1 + 2 + 2$ ,  $1 + 4$ ,  $2 + 3$  and 5.

**Input**

Input consists of several cases, with only integer numbers. Every case begins with  $x$  and  $n$ , followed by  $c_1 \dots c_n$ . Assume  $1 \leq n \leq 15$ ,  $1 \leq c_i \leq x \leq 10^6$ , and that all  $c_i$  are different.

**Output**

For every case print the number of different ways to achieve change exactly  $x$  by using each value at most twice.

**Hint**

A simply pruned backtracking should be enough.

**Sample input 1**

```
4 2 1 2
400 1 200
400 1 300
5 3 4 2 1
5 5 1 2 3 4 5
```

**Sample output 1**

```
2
1
0
2
5
```

**Problem information**

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