Problem E
Emulation of Numbers

Time limit: 3 seconds

Memory limit: 1024 megabytes

Problem Description

X is a positive number and P is a set of positive numbers. Compute the total number of combinations of the P's elements such that the sum of the elements of each combination is equal to X. The elements of P can be reused.

The followings are three examples. Example One: $X = 6, P = \{2, 3, 7\}$. The number of combinations is 2. The combinations are: 1) $\{2, 2, 2\}$; and 2) $\{3, 3\}$.

Example Two: $X = 7, P = \{2, 7, 3\}$. The number of combinations is 2. The combinations are: 1) $\{2, 3, 2\}$; and 2) $\{7\}$.

Example Three: $X = 9, P = \{2, 3, 7, 3\}$. The number of combinations is 3. The combinations are: 1) $\{2, 7\}$; 2) $\{2, 2, 2, 3\}$; and 3) $\{3, 3, 3\}$.

Input Format

- The first line contains the positive number X.

- The second line is the number of elements of P, N.

- The third lines contain N positive numbers which are the elements of P.

Output Format

Print the number of all possible combinations. If there is no combination, print 0.

Technical Specification

- $1 \leq X \leq 1000000$

- $2 \leq N \leq 9$

- $[X/1000] + 2 \leq p \leq 2 * [X/1000] + 7$ where p is an element of P, and $[X/1000]$ is the largest integer that is smaller than or equal to $X/1000$.

- The elements of P are not unique.

- The maximum number of combinations is smaller than 10^{16}.

Sample Input 1

```
6
3
2 7 3
```

Sample Output 1

```
2
```

Sample Input 2

```
7
3
2  7  3
```

Sample Output 2

```
2
```

Sample Input 3

```
9
4
2  3  7  3
```

Sample Output 3

```
3
```