



Boba Experiment

Problem Statement

Oski is running a boba experiment at his magical confectionery lab. His workbench holds exactly N jars, where the i -th jar initially contains A_i pieces of boba, each having a completely different flavor. All flavors across all initial jars are completely unique, meaning no two jars share any of the same flavors.

In each step, Oski creates a new jar of bobas. Whenever he selects a boba flavor from any jar on his workbench, the boba will magically clone itself, ensuring the bobas in the current jars are never depleted.

For every possible combination formed by choosing exactly one boba flavor from every jar currently on the workbench, Oski fuses them into one brand new boba and places it into the new jar.

After performing this experiment exactly K times, Oski takes the very last jar he created and wants to distribute all of its bobas equally among a number of identical serving cups, leaving no bobas behind. How many different valid number of cups can he choose to split the bobas perfectly? Since the answer can be very large, output it modulo $10^9 + 7$.

Input Format

The first line contains two integers N and K ($1 \leq N \leq 100$, $1 \leq K \leq 10^9$), representing the initial number of jars and the number of times Oski performs the experiment.

The second line contains N space-separated integers $A_1, A_2, \dots, A_N$ ($1 \leq A_i \leq 10^6$), representing the initial number of bobas in each jar.

Output Format

Print a single integer representing the number of different valid numbers of cups Oski can choose, modulo $10^9 + 7$.

Sample Input 1

```
2 1
3 2
```

Sample Output 1

```
4
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Explanation of Sample 1

Initially, the workbench holds 2 jars containing 3 and 2 bobas.

Let the flavors in the first jar be P , Q , and R , and the flavors in the second jar be X and Y .

In the first step, Oski explores every possible combination by taking exactly one boba from each jar. He can form 6 combinations: (P, X) , (P, Y) , (Q, X) , (Q, Y) , (R, X) , and (R, Y) . Therefore, the new jar gains a total of 6 bobas.

Since $K = 1$, the experiment ends here. Oski takes the newly created jar which contains 6 bobas and distributes them evenly into identical cups. He can pour them into 1 cup of 6 bobas, 6 cups of 1 boba, 2 cups of 3 bobas, or 3 cups of 2 bobas. This gives a total of 4 valid ways to split the bobas perfectly.

Sample Input 2

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5 3
2 1 4 2 3
```

Sample Output 2

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85
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