Raclette

Mouse Stofl plans to invite $k-1$ of his friends to eat some raclette. He has n loafs of cheese, the i-th loaf can be used to create a_i portions of raclette and he plans on using some, possibly none or all of them for his raclette.

Mice get really jealous if they see some other mice get more cheese. Hence the total number of portions should be evenly divisible by k. In how many ways can Stofl choose some of his loafs while satisfying this? As this number can be quite big, print it modulo 10^9+7.

Input

The first line of the Input contains 2 integers n and k – the number of loafs and mice. The next line contains n integers a_i – the size of the loafs.

Output

Print a single integers – the number of ways for Stofl to choose loafs mod 10^9+7.

Limits

The tests consist out of 4 test groups, each worth 25 points. In all test cases $1 \leq n, k \leq 3\,000$ and $1 \leq a_i < k$.

- In the first test group $n \leq 15$.
- In the second test group $n, k \leq 30$.
- In the third test group $n, k \leq 100$.
- In the fourth test group there are no further restrictions.

Examples

Input	Output
5 10 1 2 3 4 5	4

Input	Output
5 16 1 2 3 4 5	1

Input	Output
6 9 5 7 2 1 8 7	7