

## E. Devu and Flowers

time limit per test: 4 seconds  
memory limit per test: 256 megabytes  
input: standard input  
output: standard output

Devu wants to decorate his garden with flowers. He has purchased  $n$  boxes, where the  $i$ -th box contains  $f_i$  flowers. All flowers in a single box are of the same color (hence they are indistinguishable). Also, no two boxes have flowers of the same color.

Now Devu wants to select **exactly**  $s$  flowers from the boxes to decorate his garden. Devu would like to know, in how many different ways can he select the flowers from each box? Since this number may be very large, he asks you to find the number modulo  $(10^9 + 7)$ .

Devu considers two ways different if there is at least one box from which different number of flowers are selected in these two ways.

### Input

The first line of input contains two space-separated integers  $n$  and  $s$  ( $1 \leq n \leq 20$ ,  $0 \leq s \leq 10^{14}$ ).

The second line contains  $n$  space-separated integers  $f_1, f_2, \dots, f_n$  ( $0 \leq f_i \leq 10^{12}$ ).

### Output

Output a single integer — the number of ways in which Devu can select the flowers modulo  $(10^9 + 7)$ .

### Examples

<b>input</b>	<a href="#">Copy</a>
2 3 1 3	
<b>output</b>	<a href="#">Copy</a>
2	

  

<b>input</b>	<a href="#">Copy</a>
2 4 2 2	
<b>output</b>	<a href="#">Copy</a>
1	

  

<b>input</b>	<a href="#">Copy</a>
3 5 1 3 2	
<b>output</b>	<a href="#">Copy</a>
3	

### Note

Sample 1. There are two ways of selecting 3 flowers:  $\{1, 2\}$  and  $\{0, 3\}$ .

Sample 2. There is only one way of selecting 4 flowers:  $\{2, 2\}$ .

Sample 3. There are three ways of selecting 5 flowers:  $\{1, 2, 2\}$ ,  $\{0, 3, 2\}$ , and  $\{1, 3, 1\}$ .

### Codeforces Round #258 (Div. 2)

Finished

Practice



#### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

[Start virtual contest](#)

#### → Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

#### → Clone Contest to Mashup

You can clone this contest to a mashup.

[Clone Contest](#)

#### → Submit?

Language: GNU G++11 5.1.0 ▼

Choose file: 选择文件 未选择文件

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

[Submit](#)

#### → Problem tags

bitmasks combinatorics number theory  
\*2300

No tag edit access

#### → Contest materials

- Announcement 
- Tutorial (en) 

