233 Matrix

Time Limit: 10000/5000 MS (Java/Others) Memory Limit: 65536/65536 K (Java/Others)
Total Submission(s): 2571 Accepted Submission(s): 1503

Problem Description

In our daily life we often use 233 to express our feelings. Actually, we may say 2333, 23333, or 233333 ... in the same meaning. And here is the question: Suppose we have a matrix called 233 matrix. In the first line, it would be 233, 2333, 23333... (it means $a_{0,1} = 233, a_{0,2} = 2333, a_{0,3} = 23333...$) Besides, in 233 matrix, we got $a_{i,j} = a_{i-1,j} + a_{i,j-1}$($i,j \neq 0$). Now you have known $a_{1,0}, a_{2,0}, ..., a_{n,0}$, could you tell me $a_{n,m}$ in the 233 matrix?

Input

There are multiple test cases. Please process till EOF.

For each case, the first line contains two postive integers n,m($n \leq 10, m \leq 10^9$). The second line contains n integers, $a_{1,0}, a_{2,0}, ..., a_{n,0}$($0 \leq a_{i,0} < 2^{31}$).

Output

For each case, output $a_{n,m}$ mod 10000007.

Sample Input

```
1 1
1
2 2
0 0
3 7
23 47 16
```

Sample Output

```
234
2799
72937
```

Hint

Sample Explanations

Case #1:

$$\begin{pmatrix} 0 & 233 \\ 1 & 234 \end{pmatrix}$$

Case #2:

$$\begin{pmatrix} 0 & 233 & 2333 \\ 0 & 233 & 2566 \\ 0 & 233 & 2799 \end{pmatrix}$$

Source

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Recommend

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