2516 Sly Number

Let's consider so called "sly number" which is given as an array A of N integers from set {0,1,2}. For example $A[0] = 1$, $A[1] = 1$, $A[2] = 0$ and $A[3] = 2$. A sly number is called ONE, if $A[0] = 1$ and $A[i] = 0$ for $i = 1, 2, \ldots, N-1$.

Consider following operation with two sly numbers A and B called 'Star Multiplication':

$$C[k] = \sum_{i=0}^{k} A[i] * B[k-i] + \sum_{i=k+1}^{N-1} A[i] * B[N+k-i].$$

here C — the result of the operation, even also presented in an array — not necessarily sly number. This operation we will denote by '*' symbol.

Moreover, there is also module operation over the results of 'Star Multiplication':

$$(C \bmod Q)[i] = C[i] \bmod Q,$$

where Q is a positive integer.

We are given a sly number A and a module Q. We need to find such inverse sly number B:

$$(A * B) \bmod Q = \text{ONE}.$$

Input

The input file contains K data sets in text format. The first line of this file contains the number K of test cases. Each test consists of two lines. First line contains two integers separated by spaces: Q ($2 \le Q \le 100$) and N ($5 \le N \le 50$).

Second line contains N integers from set {0,1,2} separated by spaces, which present sly number A.

Output

The output should be printed on the standard output. It should contain K lines — one line for each test case. If a solution exists, the line should contain the string '`A solution can be found`' (In the first sample one possible inverse sly number could be '`0 0 1 1 1`'). In case there is no solution, the line should consist of string '`No solution`'.

Sample Input

```
2
2 5
1 0 1 0 1
65 8
1 2 2 2 1 1 2 2
```

Sample Output

```
A solution can be found
No solution
```