

Mixing Chemicals

There are N bottles each having a different chemical. For each chemical i , you have determined $C[i]$ which means that mixing chemicals i and $C[i]$ causes an explosion. You have K distinct boxes. In how many ways can you divide the N chemicals into those boxes such that no two chemicals in the same box can cause an explosion together?

INPUT

The first line of input is the number of test cases T . T test cases follow each containing 2 lines.

The first line of each test case contains 2 integers N and K .

The second line of each test case contains N integers, the i th integer denoting the value $C[i]$. The chemicals are numbered from 0 to $N-1$.

OUTPUT

For each testcase, output the number of ways modulo 1,000,000,007.

CONSTRAINTS

$T \leq 50$

$2 \leq N \leq 100$

$2 \leq K \leq 1000$

$0 \leq C[i] < N$

For all i , $i \neq C[i]$

SAMPLE INPUT

```
3
3 3
1 2 0
4 3
1 2 0 0
3 2
1 2 0
```

SAMPLE OUTPUT

```
6
12
0
```

EXPLANATION

In the first test case, we cannot mix any 2 chemicals. Hence, each of the 3 boxes must contain 1 chemical, which leads to 6 ways in total.

In the third test case, we cannot put the 3 chemicals in the 2 boxes satisfying all the 3 conditions.