

Knives Are Fun

"Do you know, why I use a knife? Guns are too quick. You can't savor all the little emotions. You see, in their last moments, people show you who they really are. So in a way, I know your friends better than you ever did. Would you like to know which of them were cowards?"

Joker has many knives, and he wants to assign a distinct integer to each knife so he can easily identify them. The i -th knife can have an integer between 1 and $\text{maxNumber}[i]$, inclusive.

Return the number of ways he can assign numbers to his knives, modulo 1,000,000,007. If it's impossible to assign distinct integers to the knives, print 0.

Input

The first line contains the number of test cases T ($1 \leq T \leq 666$)

Each test case has 2 lines - 1st line denotes number of knives N ($1 \leq N \leq 66$) Joker has and the 2nd line denotes the numbers $\{\text{maxNumber}[0] \dots \text{maxNumber}[N-1]\}$ Joker has.

$1 \leq \text{maxNumber}[i] \leq 3000$

Output

Print the number of ways Joker can assign numbers to his knives, modulo 1,000,000,007. If it's impossible to assign distinct integers to the knives, print 0. In last line print the string "KILL BATMAN". Don't print any extra spaces.

Example

Input:

```
3
1
7
2
5 8
3
2 1 2
```

Output:

```
7
35
0
KILL BATMAN
```

Explanation

- Test case 1 : Joker can assign any number between 1 and 7, inclusive, to the only knife.
- Test case 2 : Joker wants you to think !
- Test case 3 : (1,1,1) (1,1,2) (2,1,1) (2,1,2) are the possible combinations . As the numbering of knives is not unique so the output is 0.

