Grid Walking

Problem Statement

You are situated in an N dimensional grid at position $(x_1, x_2, \ldots, x_N)$. The dimensions of the grid are $(D_1, D_2, \ldots D_N)$. In one step, you can walk one step ahead or behind in any one of the N dimensions. (So there are always $2 \times N$ possible different moves). In how many ways can you take M steps such that you do not leave the grid at any point? You leave the grid if at any point x_i, either $x_i \le 0$ or $x_i > D_i$.

Input Format
The first line contains the number of test cases T. T test cases follow. For each test case, the first line contains N and M, the second line contains $x_1, x_2, \ldots, x_N$ and the 3rd line contains $D_1, D_2, \ldots, D_N$.

Output Format
Output T lines, one corresponding to each test case. Since the answer can be really huge, output it modulo 1000000007.

Constraints

- $1 \le T \le 10$
- $1 \le N \le 10$
- $1 \le M \le 300$
- $1 \le D_i \le 100$
- $1 \le x_i \le D_i$

Sample Input

```
10
1 287
44
78
1 236
25
87
1 122
41
63
1 260
7
64
1 127
3
73
1 69
6
68
1 231
14
63
1 236
13
30
1 259
38
70
1 257
11
12
```

Sample Output

38753340
587915072
644474045
423479916
320130104
792930663
846814121
385120933
60306396
306773532