Problem A. A

Time limit 1000 ms
Mem limit 65536 kB

In a strange shop there are **n** types of coins of value $A_1, A_2 \dots A_n$. $C_1, C_2, \dots C_n$ denote the number of coins of value $A_1, A_2 \dots A_n$ respectively. You have to find the number of ways you can make **K** using the coins.

For example, suppose there are three coins 1, 2, 5 and we can use coin 1 at most 3 times, coin 2 at most 2 times and coin 5 at most 1 time. Then if **K = 5** the possible ways are:

(1, 1, 1, 2)

(1, 2, 2)

(5)

So, 5 can be made in 3 ways.

Input

Input starts with an integer **T (≤ 100)**, denoting the number of test cases.

Each case starts with a line containing two integers **n (1 ≤ n ≤ 50)** and **K (1 ≤ K ≤ 1000)**. The next line contains **2n** integers, denoting $A_1, A_2 \dots A_n, C_1, C_2 \dots C_n$ $(1 \le A_i \le 100, 1 \le C_i \le 20)$. All A_i will be distinct.

Output

For each case, print the case number and the number of ways **K** can be made. The result can be large, so, print the result modulo **100000007**.

Sample

Input	Output
2 3 5 1 2 5 3 2 1 4 20 1 2 3 4 8 4 2 1	Case 1: 3 Case 2: 9