1233 – Coin Change (III)

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 different values (from **1** to **m**), which can be produced using these coins.

Input

Input starts with an integer **T (≤ 20)**, denoting the number of test cases.

Each case starts with a line containing two integers **n (1 ≤ n ≤ 100), m (0 ≤ m ≤ 10^5)**. The next line contains **2n** integers, denoting $A_1, A_2 \dots A_n, C_1, C_2 \dots C_n$ **(1 ≤ A_i ≤ 10^5, 1 ≤ C_i ≤ 1000)**. All A_i will be distinct.

Output

For each case, print the case number and the result.

Sample Input	Output for Sample Input
2 3 10 1 2 4 2 1 1 2 5 1 4 2 1	Case 1: 8 Case 2: 4