

1127 – Funny Knapsack

Given n integers and a knapsack of weight W , you have to count the number of combinations for which you can add the items in the knapsack without overflowing the weight.

Input

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

Each case contains two integers n ($1 \leq n \leq 30$) and W ($1 \leq W \leq 2 * 10^9$) and the next line will contain n integers separated by spaces. The integers will be non negative and less than 10^9 .

Output

For each set of input, print the case number and the number of possible combinations.

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