1125 – Divisible Group Sums

Given a list of **N** numbers you will be allowed to choose any **M** of them. So you can choose in ${}^{N}C_{M}$ ways. You will have to determine how many of these chosen groups have a sum, which is divisible by **D**.

Input

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

The first line of each case contains two integers **N (0 < N ≤ 200)** and **Q (0 < Q ≤ 10)**. Here **N** indicates how many numbers are there and **Q** is the total number of queries. Each of the next **N** lines contains one **32** bit signed integer. The queries will have to be answered based on these **N** numbers. Each of the next **Q** lines contains two integers **D (0 < D ≤ 20)** and **M (0 < M ≤ 10)**.

Output

For each case, print the case number in a line. Then for each query, print the number of desired groups in a single line.

Sample Input	Output for Sample Input
2 10 2 1 2 3 4 5 6 7 8 9 10 5 1 5 2 5 1 2 3 4 5 6 6 2	Case 1: 2 9 Case 2: 1