

## Art of Distribution

There are candies to be distributed among  $N$  children in a way such that at the end of the day each child gets candies in a specified percentage.

For instance, there are 4 children with 10%, 20%, 30% and 40% of shares in candy. If 10 candies are to be distributed, the children will get 1, 2, 3 and 4 candies respectively.

The candies to be distributed arrive in  $M$  different batches throughout the day. For each batch, you have to calculate how many candies each child will get.

Whenever there is a conflict, prioritize the child who is first in the order. A candy cannot be broken into pieces, so candies count cannot be less than 1.

Make sure, the candies are distributed at the end of day as close as possible to their percentage of shares.

### Input Format:

Each input contains the following:

**N**- Number of children among which the candies are to be distributed. ( $0 < N \leq 100$ )

Next line contains array **A** of size  $N$ , where each  $A[i]$  represents the share percentage of each children. ( $0 \leq A[i] \leq 100$  and sum of all  $A[i]$  is 100)

**M** - Next-line has a single integer representing the number of batches in the day ( $0 \leq M \leq 10^5$ )

Next  $M$  lines contain the number of candies to be distributed for that batch.

### Output Format:

- $M$  lines containing the distribution of candies among  $N$  children in the same order separated by spaces.

### Sample Test Case 1:

**Input:**

```
2
20 80
4
4
4
4
8
```

**Output:**

1 3  
1 3  
1 3  
1 7

**Explanation:**

Let us label the children A and B with those percentages: A(20) and B(80)

There are 4 batches in the day.

**Batch 1:** 4 candies, divided among both children and A gets 1 and B gets 3

Hence first line outputs **1 3**

**Batch 2:** 4 candies, same as batch 1, Hence the second line outputs **1 3**

**Batch 3:** 4 candies, same as batch 1 and 2, Hence the output is **1 3**

**Batch 4:** 8 candies, the first 5 candies can be distributed evenly between A and B as **1** and **4** as per their share. Remaining 3 candies are to be distributed keeping the share in mind and hence only B will get those **3** candies. Hence the output is **1 7**

**Note:** Do note that, at the end of day, A got 4 candies while B got 16 candies from 20 candies which is equal to the percentages they need.

**Sample Test Case 2:****Input:**

4  
10 20 30 40  
2  
11  
9

**Output:**

2 2 3 4  
0 2 3 4