

## 4553 Equal Sum Partitions

An **equal sum partition** of a sequence of numbers is a grouping of the numbers (in the same order as the original sequence) in such a way that each group has the same sum. For example, the sequence:

2 5 1 3 3 7

may be grouped as:

(2 5) (1 3 3) (7)

to yield an equal sum of 7.

**Note:** The partition that puts all the numbers in a single group is an equal sum partition with the sum equal to the sum of all the numbers in the sequence.

For this problem, you will write a program that takes as input a sequence of positive integers and returns the smallest sum for an equal sum partition of the sequence.

### Input

The first line of input contains a single integer  $P$ , ( $1 \leq P \leq 1000$ ), which is the number of data sets that follow. The first line of each data set contains the data set number, followed by a space, followed by a decimal integer  $M$ , ( $1 \leq M \leq 10000$ ), giving the total number of integers in the sequence. The remaining line(s) in the dataset consist of the values, 10 per line, separated by a single space. The last line in the dataset may contain less than 10 values.

### Output

For each data set, generate one line of output with the following values: The data set number as a decimal integer, a space, and the smallest sum for an equal sum partition of the sequence.

### Sample Input

```
3
1 6
2 5 1 3 3 7
2 6
1 2 3 4 5 6
3 20
1 1 2 1 1 2 1 1 2 1
1 2 1 1 2 1 1 2 1 1
```

### Sample Output

```
1 7
2 21
3 2
```