

SPOJ Problem Set (classical)

43. Copying Books

Problem code: BOOKS1

Before the invention of book-printing, it was very hard to make a copy of a book. All the contents had to be re-written by hand by so called *scribers*. The scribe had been given a book and after several months he finished its copy. One of the most famous scribes lived in the 15th century and his name was Xaverius Endricus Remius Ontius Xendrianus (*Xerox*). Anyway, the work was very annoying and boring. And the only way to speed it up was to hire more scribes.

Once upon a time, there was a theater ensemble that wanted to play famous Antique Tragedies. The scripts of these plays were divided into many books and actors needed more copies of them, of course. So they hired many scribes to make copies of these books. Imagine you have m books (numbered $1, 2 \dots m$) that may have different number of pages ($p_1, p_2 \dots p_m$) and you want to make one copy of each of them. Your task is to divide these books among k scribes, $k \leq m$. Each book can be assigned to a single scribe only, and every scribe must get a continuous sequence of books. That means, there exists an increasing succession of numbers $0 = b_0 < b_1 < b_2, \dots < b_{k-1} \leq b_k = m$ such that i -th scribe gets a sequence of books with numbers between $b_{i-1} + 1$ and b_i . The time needed to make a copy of all the books is determined by the scribe who was assigned the most work. Therefore, our goal is to minimize the maximum number of pages assigned to a single scribe. Your task is to find the optimal assignment.

Input

The input consists of N cases (equal to about 200). The first line of the input contains only positive integer N . Then follow the cases. Each case consists of exactly two lines. At the first line, there are two integers m and k , $1 \leq k \leq m \leq 500$. At the second line, there are integers p_1, p_2, \dots, p_m separated by spaces. All these values are positive and less than 10000000.

Output

For each case, print exactly one line. The line must contain the input succession p_1, p_2, \dots, p_m divided into exactly k parts such that the maximum sum of a single part should be as small as possible. Use the slash character ('/') to separate the parts. There must be exactly one space character between any two successive numbers and between the number and the slash.

If there is more than one solution, print the one that minimizes the work assigned to the first scribe, then to the second scribe etc. But each scribe must be assigned at least one book.

Example

Sample input:

```
2
9 3
100 200 300 400 500 600 700 800 900
5 4
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100 100 100 100 100

Sample output:

100 200 300 400 500 / 600 700 / 800 900
100 / 100 / 100 / 100 100

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Time limit: 5s

Source limit:50000B

Languages: All

Resource: ACM Central European Programming Contest, Prague 1998