



HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

# B. Cinema Cashier

time limit per test: 1 second memory limit per test: 256 megabytes

All cinema halls in Berland are rectangles with K rows of K seats each, and K is an odd number. Rows and seats are numbered from 1 to K. For safety reasons people, who come to the box office to buy tickets, are not allowed to choose seats themselves. Formerly the choice was made by a cashier, but now this is the responsibility of a special seating program. It was found out that the large majority of Berland's inhabitants go to the cinema in order to watch a movie, that's why they want to sit as close to the hall center as possible. Moreover, a company of M people, who come to watch a movie, want necessarily to occupy M successive seats in one row. Let's formulate the algorithm, according to which the program chooses seats and sells tickets. As the request for M seats comes, the program should determine the row number x and the segment  $[y_l, y_r]$  of the seats numbers in this row, where  $y_r - y_l + 1 = M$ . From all such possible variants as a final result the program should choose the one with the minimum function value of total seats remoteness from the center. Say,  $x_c = \lceil \frac{k}{2} \rceil$ ,  $y_c = \lceil \frac{k}{2} \rceil$ —the row and the seat numbers of the most "central" seat. Then the function value of seats remoteness from the hall center is  $\sum_{y=y_t}^{g_r} |x-x_c| + |y-y_c|$ . If the amount of minimum function values is more than one, the program should choose the one that is closer to the screen (i.e. the row number x is lower). If the variants are still multiple, it should choose the one with the minimum y<sub>I</sub>. If you did not get yet, your task is to simulate the work of this program.

## Input

The first line contains two integers N and K ( $1 \le N \le 1000, 1 \le K \le 99$ ) — the amount of requests and the hall size respectively. The second line contains N space-separated integers  $M_i$  from the range [1, K] — requests to the program.

### Output

Output N lines. In the i-th line output «-1» (without quotes), if it is impossible to find  $M_i$  successive seats in one row, otherwise output three numbers  $x, y_l, y_r$ . Separate the numbers with a space.

### Examples

input	Сору
2 1 1 1	
output	Сору
1 1 1 -1	
input	Сору
4 3 1 2 3 1	
output	Сору
2 2 2	
1 1 2	
3 1 3	
2 1 1	

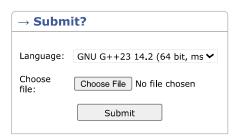
# Codeforces Beta Round 10 Finished Practice

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Start virtual contest





→ Last submissions		
Submission	Time	Verdict
325263398	Jun/20/2025 13:30	Accepted





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