北京大学 PEKING UNIVERSITY
JUDGE ONLINE FOR ACM/ICPC

Online Judge
Web Board
Home Page
F.A.Qs
Statistical Charts

Problem Set
Problems
Submit Problem
Online Status
Prob.ID: [ ] Go

Authors
Register
Update your info
Authors ranklist
[ ] Search

Online Contests
Current Contest
Past Contests
Scheduled Contests
Award Contest

User
User ID: [ ]
Password: [ ]
login Register

Monthly Expense

Time Limit: 2000MS   **Memory Limit:** 65536K
Total Submissions: 36312   **Accepted:** 13499

Language: Default ▼

Description

Farmer John is an astounding accounting wizard and has realized he might run out of money to run the farm. He has already calculated and recorded the exact amount of money ($1 \leq money_i \leq 10{,}000$) that he will need to spend each day over the next N ($1 \leq N \leq 100{,}000$) days.

FJ wants to create a budget for a sequential set of exactly M ($1 \leq M \leq N$) fiscal periods called "fajomonths". Each of these fajomonths contains a set of 1 or more consecutive days. Every day is contained in exactly one fajomonth.

FJ's goal is to arrange the fajomonths so as to minimize the expenses of the fajomonth with the highest spending and thus determine his monthly spending limit.

Input

Line 1: Two space-separated integers: N and M
Lines 2..N+1: Line i+1 contains the number of dollars Farmer John spends on the ith day

Output

Line 1: The smallest possible monthly limit Farmer John can afford to live with.

Sample Input

```
7 5
100
400
300
100
500
101
400
```

Sample Output

```
500
```

Hint

If Farmer John schedules the months so that the first two days are a month, the third and fourth are a month, and the last three are their own months, he spends at most $500 in any month. Any other method of scheduling gives a larger minimum monthly limit.

Source

USACO 2007 March Silver

[Submit]   [Go Back]   [Status]   [Discuss]

Home Page   Go Back   To top