**Allocate Books**

**Problem statement**

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Given an array ***‘arr’*** of integer numbers, ‘arr[i]’ represents the number of pages in the ‘i-th’ book.

There are ***‘m’*** number of students, and the task is to allocate all the books to the students.

Allocate books in such a way that:

1. Each student gets at least one book.

2. Each book should be allocated to only one student.

3. Book allocation should be in a contiguous manner.

You have to allocate the book to ‘m’ students such that the maximum number of pages assigned to a student is minimum.

If the allocation of books is not possible, return -1.

**Example:**

Input: ‘n’ = 4 ‘m’ = 2

‘arr’ = [12, 34, 67, 90]

Output: 113

Explanation: All possible ways to allocate the ‘4’ books to '2' students are:

12 | 34, 67, 90 - the sum of all the pages of books allocated to student 1 is ‘12’, and student two is ‘34+ 67+ 90 = 191’, so the maximum is ‘max(12, 191)= 191’.

12, 34 | 67, 90 - the sum of all the pages of books allocated to student 1 is ‘12+ 34 = 46’, and student two is ‘67+ 90 = 157’, so the maximum is ‘max(46, 157)= 157’.

12, 34, 67 | 90 - the sum of all the pages of books allocated to student 1 is ‘12+ 34 +67 = 113’, and student two is ‘90’, so the maximum is ‘max(113, 90)= 113’.

We are getting the minimum in the last case.

Hence answer is ‘113’.

**Detailed explanation**( Input/output format, Notes, Images )

**Sample Input 1:**

4 2

12 34 67 90

**Sample Output 1:**

113

**Explanation of sample input 1:**

All possible ways to allocate the ‘4’ books to '2' students are:

12 | 34, 67, 90 - the sum of all the pages of books allocated to student 1 is ‘12’, and student two is ‘34+ 67+ 90 = 191’, so the maximum is ‘max(12, 191)= 191’.