


## Printout

Saturday, August 8, 2020 4:27 PM

8/8/2020

TCS: CodeVita - Coding Arena

The TCS Global Coding Contest

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# Coding Area

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## Minimize The Sum

+

Problem Description

Given an array of integers, perform atmost K operations so that the sum of elements of final array is minimum. An operation is defined as follows -

Consider any 1 element from the array, arr[i].

Replace arr[i] by floor(arr[i]/2).

Perform next operations on updated array.

The task is to minimize the sum after atmost K operations.

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Constraints

$1 \leq N, K \leq 10^5$ .

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Input

First line contains two integers N and K representing size of array and maximum numbers of operations that can be performed on the array respectively.

Second line contains N space separated integers denoting the elements of the array, arr.

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Output

Print a single integer denoting the minimum sum of the final array.

+

Time Limit

1

+

Examples

Example 1

Input

[https://www.tscodevita.com/main\\_page.jsp](https://www.tscodevita.com/main_page.jsp)

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4 3

20 7 5 4

Output

17

Explanation

Operation 1 -> Select 20. Replace it by 10.

New array = [10, 7, 5, 4]

Operation 2 -> Select 10. Replace it by 5.

New array = [5, 7, 5, 4].

Operation 3 -> Select 7. Replace it by 3.

New array = [5,3,5,4].

Sum = 17.

Upload Solution [ Question : C ]

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