## 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.

### Constraints

1 <= N, K <= 10^5.

### 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.

### Output

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

### Time Limit

1

### Examples

Example 1

**Input**

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.