

Interstellar 3: The Return of Cooper

locked

Problem	Submissions	Leaderboard
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Cooper has promised his daughter Murph to return home as soon as possible after saving the planet. Help Cooper and NASA to build a new spaceship "Perseverance" for his interstellar travel!

In order to build "Perseverance", Cooper needs N parts, where the i^{th} part costs A_i dollars.

To help Cooper with his mission, NASA decides to issue M tokens, each of which could be used to reduce the cost of any part by half (using integer division). For example, if a token is used on a part which initially costs P dollars, then after using the token, the part now costs $\lfloor \frac{P}{2} \rfloor$.

Note that, more than one token could be used for reducing the cost of the same part multiple times.

Find the minimum amount of money required to build the spaceship.

Input Format

The first line contains two space-separated integers - N and M

The second line contains N space-separated integers - A_1, A_2, \dots, A_N

Constraints

- $1 \leq N, M \leq 10^5$
- $1 \leq A_i \leq 10^9$

Output Format

Print a single integer - the minimum cost to build the spaceship

Sample Input 0

```
2 1
2 4
```

Sample Output 0

```
4
```

Explanation 0

The token will be used to buy the second item, hence making it's price as floor(4/2) = 2.



Total cost will be 2 + 2 = 4

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Submissions: 324
Max Score: 100
Difficulty: Easy

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More

Current Buffer (saved locally, editable)  

C

```
1▼ #include <stdio.h>
2  #include <string.h>
3  #include <math.h>
4  #include <stdlib.h>
5
6▼ int main() {
7
8▼     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
9     return 0;
10 }
11
```

Line: 1 Col: 1