Magical Candy Bags

You have **N** bags of candy. The *i*th bag contains `arr[i]` pieces of candy, and each of the bags is magical!

It takes you 1 minute to eat all of the pieces of candy in a bag (irrespective of how many pieces of candy are inside), and as soon as you finish, the bag mysteriously refills. If there were `x` pieces of candy in the bag at the beginning of the minute, then after you've finished you'll find that `floor(x/2)` pieces are now inside.

You have **k** minutes to eat as much candy as possible. How many pieces of candy can you eat?

Signature

```
int maxCandies(int[] arr, int K)
```

Input

1 ≤ **N** ≤ 10,000
1 ≤ **k** ≤ 10,000
1 ≤ **arr[i]** ≤ 1,000,000,000

Output

A single integer, the maximum number of candies you can eat in **k** minutes.

Example 1

```
N = 5
k = 3
arr = [2, 1, 7, 4, 2]
output = 14
```

In the first minute you can eat 7 pieces of candy. That bag will refill with `floor(7/2) = 3` pieces.

In the second minute you can eat 4 pieces of candy from another bag. That bag will refill with `floor(4/2) = 2` pieces.

In the third minute you can eat the 3 pieces of candy that have appeared in the first bag that you ate.

In total you can eat 7 + 4 + 3 = 14 pieces of candy.