B'day Gift

Isaac has to buy a new *HackerPhone* for his girlfriend Amy. He is exploring the shops in the town to compare the prices whereupon he finds a shop located on the first floor of a building, that has a unique pricing policy. There are N steps leading to the shop. A numbered ball is placed on each of the steps. The shopkeeper gives Isaac a fair coin and asks him to toss the coin before climbing each step. If the result of the toss is a 'Heads', Isaac should pick up the ball, else leave it and proceed to the next step.

The shopkeeper then asks Isaac to find the sum of all the numbers he has picked up (let's say S). The price of the *HackerPhone* is then the expected value of S. Help Isaac find the price of the *HackerPhone*.

Input Format
The first line of the input contains an integer N, the number of steps. N lines follow, which are the numbers written on the ball on each step.

Output Format
A single line containing expected value.

Note : Expected value must be printed as a decimal number having exactly one digit after decimal. It is guaranteed that the correct answer will have at most one digit after decimal.

Constraints
1 <= N <= 40
1 <= number on any ball <=10^9

Sample Input #00:

```
3
1
1
2
```

Sample Output #00:

```
2.0
```

Sample Input #01:

```
4
1
2
2
2
```

Sample Output #01:

```
3.5
```

Explanation
In the first case there can be 8 different ways depending on the ball choice. So, we can multiply sum for each way by its probability to occur i.e. 1/8 and sum up to get the expected value as 2.
Similarly in the second case we have 4 items , there can be 16 ways and following the expected value one gets is 3.5.