Random

Given an array 'D' with n elements: d[0], d[1], ..., d[n-1], you can perform the following two steps on the array.

1. Randomly choose two indexes (l, r) with l < r, swap (d[l], d[r])
2. Randomly choose two indexes (l, r) with l < r, reverse (d[l...r]) (both inclusive)

After you perform the first operation **a** times and the second operation **b** times, you randomly choose two indices l & r with $l < r$ and calculate the S = sum(d[l...r]) (both inclusive).

Now, you are to find the expected value of S.

Input Format
The first line of the input contains 3 space separated integers - n, a and b.
The next line contains n space separated integers which are the elements of the array *d*.

```
n a b
d[0] d[1] ... d[n-1]
```

Output Format
Print the expected value of S.

```
E(S)
```

Constraints

2 <= n <= 1000
1 <= a <= 10^9
1 <= b <= 10

The answer will be considered correct, if the absolute or relative error doesn't exceed 10^{-4}.

Sample Input #00:

```
3 1 1
1 2 3
```

Sample Output #00:

```
4.666667
```

Explanation #00:

At step 1):
You have three choices:
1. swap(0, 1), 2 1 3
2. swap(0, 2), 3 2 1
3. swap(1, 2), 1 3 2

At step 2):
For every result you have three choices for reversing:

1. [2 1 3] -> [1 2 3] [3 1 2] [2 3 1]
2. [3 2 1] -> [2 3 1] [1 2 3] [3 1 2]
3. [1 3 2] -> [3 1 2] [2 3 1] [1 2 3]

So you have 9 possible arrays with each having a 1/9 probability.

For the last step:
Each of the 9 arrays will have 3 possible sums with equal probability. For [1 2 3], you can get 1+2, 2+3 and 1+2+3.
Since there will be 27 outcome for this input, one can calculate the expected value by finding sum of all 27 S and dividing it by 27.