Problem ID: araceagainsttime

Every time traveller knows the Time Pirates, vicious lawbreakers changing key points in time for their own personal gain, and now it seems like your previous encounters with them have given you a cosy top spot on their hit list. They have launched a series of coordinated strikes against you by travelling through time and causing problems both in your past and in your future. However, since time is not a linear "cause and effect" kind of thing, but more like a big ball of wibbly wobbly timey wimey stuff, these attacks do not take full effect immediately. Instead, they will appear gradually, and you have the luxury of being able to choose in what order you want to fix the problems – but you do have to fix them all!

For each problem, you have already determined the base time of how many hours it will take to solve if you start working on it immediately. Additionally, you estimate that the time needed to resolve an untouched issue increases at a rate of 1% of the base time per hour. After solving any issue, you will need exactly 1 hour to tie up loose ends and get back into your time machine. (For instance, if you start fixing an issue with a base time of 5 hours, and you have already spent 123.4 hours fixing other issues, it will take $5 + 0.01 \cdot 5 \cdot 123.4 + 1 = 12.17$ hours to solve this issue and return to your time machine.)

Naturally, solving a problem partially just to leave and return later would just confuse the locals, so you will always completely fix an issue once you have started working on it before moving on to the next one. Now you just need to determine in what order you should solve the problems to minimise the time it will take you in total.

Assuming it takes no time to travel in your time machine, how long will it take you to fix all problems and return to your time machine?

Input

The input consists of:

- One line with an integer n ($1 \leq n \leq 100$), the number of problems caused by the Time Pirates.
- One line with n integers $t_1, \ldots, t_n$ ($1 \leq t_i \leq 12$ for each i), the base times (in hours) required to solve the individual problems.

Output

Output a single number, the minimum number of hours it will take you to solve all the problems and return to your time machine. Your output will be accepted if the absolute or relative error does not exceed 10^{-6}.

Sample Input 1

```
2
2 1
```

Sample Output 1

```
5.03
```

Sample Input 2

```
3
3 5 2
```

Sample Output 2

```
13.3836
```

Sample Input 3

```
6
12 12 11 12 12 12
```

Sample Output 3

```
103.6716
```