Online 5: Greedy Algorithm
Time: 30 minutes

Problem Specification:

Imagine the situation described in the offline, but this time all the customers are available to be served from the beginning. You can serve one customer at a time and they will wait until they are served. Each customer requires a different amount of time to be served. When one customer is being served, the remaining others will be waiting. We wish to minimize the average waiting time of all the customers.

Implement an algorithm to find the order in which customers should be serviced to minimize average waiting time. Also, find the minimum average waiting time.

Input:

The first line of the input contains the number of customers, the following are the service time required for each customer.

For Example:

11

10 24 5 11 67 21 8 97 32 9 41

Output:

The order by which the customers should be served so that the average waiting time of all the customers is minimized. Also, show the minimum average waiting time. Output for the above input should be :

3 7 10 1 4 6 2 9 11 5 8

Minimum average waiting time: 70.5454