

1701. Average Waiting Time

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There is a restaurant with a single chef. You are given an array `customers`, where `customers[i] = [arrivali, timei]`:

- `arrivali` is the arrival time of the i^{th} customer. The arrival times are sorted in **non-decreasing** order.
- `timei` is the time needed to prepare the order of the i^{th} customer.

When a customer arrives, he gives the chef his order, and the chef starts preparing it once he is idle. The customer waits till the chef finishes preparing his order. The chef does not prepare food for more than one customer at a time. The chef prepares food for customers **in the order they were given in the input**.

Return the **average** waiting time of all customers. Solutions within 10^{-5} from the actual answer are considered accepted.

User Accepted:	2677
User Tried:	2875
Total Accepted:	2754
Total Submissions:	4833
Difficulty:	Medium

Example 1:

Input: `customers = [[1,2],[2,5],[4,3]]`

Output: `5.00000`

Explanation:

- The first customer arrives at time 1, the chef takes his order and starts preparing it immediately at time 1, and finishes at time 3.
 - The second customer arrives at time 2, the chef takes his order and starts preparing it at time 3, and finishes at time 8, so the wait is 6.
 - The third customer arrives at time 4, the chef takes his order and starts preparing it at time 8, and finishes at time 11, so the wait is 7.
- So the average waiting time = $(2 + 6 + 7) / 3 = 5$.

Example 2:

Input: `customers = [[5,2],[5,4],[10,3],[20,1]]`

Output: `3.25000`

Explanation:

- The first customer arrives at time 5, the chef takes his order and starts preparing it immediately at time 5, and finishes at time 7.
 - The second customer arrives at time 5, the chef takes his order and starts preparing it at time 7, and finishes at time 11, so the wait is 6.
 - The third customer arrives at time 10, the chef takes his order and starts preparing it at time 11, and finishes at time 14, so the wait is 4.
 - The fourth customer arrives at time 20, the chef takes his order and starts preparing it immediately at time 20, and finishes at time 21, so the wait is 1.
- So the average waiting time = $(2 + 6 + 4 + 1) / 4 = 3.25$.

Constraints:

- $1 \leq \text{customers.length} \leq 10^5$
- $1 \leq \text{arrival}_i, \text{time}_i \leq 10^4$
- $\text{arrival}_i \leq \text{arrival}_{i+1}$

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Java



```

1 class Solution {
2     public double averageWaitingTime(int[][] customers) {
3
4         int finish=customers[0][0];
5         double wt = 0;
6         for(int i = 0;i<customers.length;i++){
7
8             if(customers[i][0]>finish)
9                 finish = customers[i][0];
10
11             finish+= customers[i][1];
12             wt+= finish - customers[i][0];
13
14         }
15
16         return wt/customers.length;
17
18     }
19 }
```