

Jim and the Orders **■**



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Jim's Burgers has n hungry burger fans waiting in line. Each unique order, i, is placed by a customer at time t_i , and the order takes d_i units of time to

Given the information for all norders, can you find and print the order in which all no customers will receive their burgers? If two or more orders are fulfilled at the exact same time t, sort them by ascending order number.

Input Format

The first line contains a single integer, n, denoting the number of orders.

Each of the n subsequent lines contains two space-separated integers describing the respective values of t_i and d_i for order i.

Constraints

- $1 \le n \le 10^3$
- $1 \le i \le n$
- $1 \le t_i, d_i \le 10^6$

Output Format

Print a single line of n space-separated order numbers (recall that orders are numbered from 1 to n) describing the sequence in which the customers receive their burgers. If two or more customers receive their burgers at the same time, print the smallest order number first.

Sample Input 0

- 3 1 3 2 3
- 3 3

Sample Output 0

1 2 3

Explanation 0

Jim has the following orders:

- 1. $t_1 = 1, d_1 = 3$. This order is fulfilled at time t = 1 + 3 = 4.
- 2. $t_2 = 2$, $d_2 = 3$. This order is fulfilled at time t = 2 + 3 = 5.
- 3. $t_3 = 3$, $d_3 = 3$. This order is fulfilled at time t = 3 + 3 = 6.

As you can see, order 1 was fulfilled at time t = 4, order 2 was fulfilled at time t = 5, and order 3 was fulfilled at time t = 6. Thus, we print the sequence of order numbers in the order in which they were fulfilled as $1\ 2\ 3$.

Sample Input 1

- 5 8 1
- 4 2 5 6
- 3 1 4 3

Sample Output 1

4 2 5 1 3

Explanation 1

Jim has the following orders:

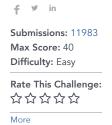
- 1. $t_1 = 8, d_1 = 1$. This order is fulfilled at time t = 8 + 1 = 9.
- 2. $t_2 = 4, d_2 = 2$. This order is fulfilled at time t = 4 + 2 = 6.
- 3. $t_3 = 5, d_3 = 6$. This order is fulfilled at time t = 5 + 6 = 11.
- 4. $t_4=3, d_4=1$. This order is fulfilled at time t=3+1=4.
- 5. $t_5 = 4$, $d_4 = 3$. This order is fulfilled at time t = 4 + 3 = 7.

When we order these by ascending fulfillment time, we get:

- t = 4: order 4.
- t = 6: order 2.
- t = 7: order 5.
- **t** = **9**: order **1**.
- t = 11: order 3.

We print the ordered numbers in the bulleted listed above as $4\ 2\ 5\ 1\ 3$.

Note: While not demonstrated in these sample cases, recall that any orders fulfilled at the same time must be listed by ascending order number.





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