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Test Name: Mock Test

Taken On: 29 Oct 2021 12:16:36 IST

Time Taken: 27 min 35 sec/ 33 min

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Invited by: Ankush

Invited on: 29 Oct 2021 12:16:28 IST

Skills Score:

Tags Score:

100%  
120/120

scored in **Mock Test** in 27 min  
35 sec on 29 Oct 2021 12:16:36  
IST

Algorithms 120/120

Core CS 120/120

Data Structures 120/120

Queues 120/120

Recruiter/Team Comments:

No Comments.

	Question Description	Time Taken	Score	Status
Q1	Truck Tour > Coding	27 min 26 sec	120/ 120	✓

QUESTION 1



Correct Answer

Score 120

Truck Tour > Coding

Algorithms

Data Structures

Queues

Core CS

QUESTION DESCRIPTION

Suppose there is a circle. There are  $N$  petrol pumps on that circle. Petrol pumps are numbered  $0$  to  $(N - 1)$  (both inclusive). You have two pieces of information corresponding to each of the petrol pump: (1) the amount of petrol that particular petrol pump will give, and (2) the distance from that petrol pump to the next petrol pump.

Initially, you have a tank of infinite capacity carrying no petrol. You can start the tour at any of the petrol pumps. Calculate the first point from where the truck will be able to complete the circle. Consider that the truck will stop at each of the petrol pumps. The truck will move one kilometer for each litre of the petrol.

Input Format

The first line will contain the value of  $N$ .

The next  $N$  lines will contain a pair of integers each, i.e. the amount of petrol that petrol pump will give and the distance between that petrol pump and the next petrol pump.

Constraints:

Constraints.

$$1 \leq N \leq 10^5$$

$$1 \leq \text{amount of petrol, distance} \leq 10^9$$

### Output Format

An integer which will be the smallest index of the petrol pump from which we can start the tour.

### Sample Input

```
3
1 5
10 3
3 4
```

### Sample Output

```
1
```

### Explanation

We can start the tour from the second petrol pump.

## CANDIDATE ANSWER

Language used: C++

```
1  /*
2   * Complete the 'truckTour' function below.
3   *
4   * The function is expected to return an INTEGER.
5   * The function accepts 2D_INTEGER_ARRAY petrolpumps as parameter.
6   */
7
8  int truckTour(vector<vector<int>> petrolpumps) {
9      int nb_pumps = petrolpumps.size();
10     for (int start=0; start < nb_pumps; start++){
11         int i(start);
12         int max_pump(start + nb_pumps);
13         int tank(0), nextpump(0);
14         int j(i);
15         while(j < max_pump){
16             tank += petrolpumps[j % nb_pumps][0];
17             nextpump = petrolpumps[j % nb_pumps][1];
18             if(tank >= nextpump){
19                 tank -= nextpump;
20             }
21             else{
22                 break;
23             }
24             j++;
25         }
26         if(j == max_pump){
27             return i;
28         }
29     }
30     return -1;
31 }
32
33
```

TESTCASE	DIFFICULTY	TYPE	STATUS	SCORE	TIME TAKEN	MEMORY USED
Testcase 1	Easy	Sample case	✔ Success	0	0.0178 sec	8.93 KB
Testcase 2	Easy	Hidden case	✔ Success	10	0.0248 sec	9.05 KB
Testcase 3	Easy	Hidden case	✔ Success	10	0.017 sec	9.02 KB
Testcase 4	Easy	Hidden case	✔ Success	10	0.0205 sec	9.02 KB
Testcase 5	Easy	Hidden case	✔ Success	10	0.1309 sec	18.9 KB
Testcase 6	Easy	Hidden case	✔ Success	10	0.1389 sec	19 KB
Testcase 7	Easy	Hidden case	✔ Success	10	0.1524 sec	19.1 KB
Testcase 8	Easy	Hidden case	✔ Success	10	0.1128 sec	19 KB
Testcase 9	Easy	Hidden case	✔ Success	10	0.0936 sec	19 KB
Testcase 10	Easy	Hidden case	✔ Success	10	0.1499 sec	18.8 KB
Testcase 11	Easy	Hidden case	✔ Success	10	0.1094 sec	19.1 KB
Testcase 12	Easy	Hidden case	✔ Success	10	0.1504 sec	19 KB
Testcase 13	Easy	Hidden case	✔ Success	10	0.1159 sec	18.9 KB

No Comments