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|---|---|
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| Test Name: | **Mock Test** |
| Taken On: | 29 Sep 2022 06:10:08 IST |
| Time Taken: | 13 min 13 sec/ 35 min |
| Invited by: | Ankush |
| Invited on: | 29 Sep 2022 06:09:58 IST |
| Skills Score: | |
| Tags Score: | Algorithms 120/120<br>Core CS 120/120<br>Data Structures 120/120<br>Queues 120/120 |

**100%**

**120/120**

scored in **Mock Test** in 13 min 13 sec on 29 Sep 2022 06:10:08 IST

**Recruiter/Team Comments:**

*No Comments.*

| | Question Description | Time Taken | Score | Status |
|---|---|---|---|---|
| Q1 | Truck Tour > **Coding** | 12 min 57 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:**

$1 \leq N \leq 10^5$

$1 \leq$ [illegible] $\leq 10^9$

$1 \leq$ 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: **Java 8**

```
class Result {

    /*
     * Complete the 'truckTour' function below.
     *
     * The function is expected to return an INTEGER.
     * The function accepts 2D_INTEGER_ARRAY petrolpumps as parameter.
     */

    public static int truckTour(List<List<Integer>> petrolpumps) {


        int process = 0;
        int finalIn = 0;
        int sizePumps = petrolpumps.size();

        int consumedGasoline = 0;

        while(process < sizePumps && finalIn < sizePumps){
            List<Integer> pump = petrolpumps.get(finalIn);
            System.out.println(pump);
            int gasoline = pump.get(0);
            int distanceNext = pump.get(1);
            consumedGasoline += gasoline;
            consumedGasoline -= distanceNext;
            finalIn++;

            while(consumedGasoline < 0 && process < finalIn){
                pump = petrolpumps.get(process);
                gasoline = pump.get(0);
                distanceNext = pump.get(1);
                consumedGasoline -= gasoline;
                consumedGasoline += distanceNext;
                process++;
            }

```

```
37
38          }
39
40
41          return process;
42      }
43
44  }
45
46
```

| TESTCASE | DIFFICULTY | TYPE | STATUS | SCORE | TIME TAKEN | MEMORY USED |
|---|---|---|---|---|---|---|
| Testcase 1 | Easy | Sample case | Success | 0 | 0.1465 sec | 29.8 KB |
| Testcase 2 | Easy | Hidden case | Success | 10 | 0.2312 sec | 32.6 KB |
| Testcase 3 | Easy | Hidden case | Success | 10 | 0.2838 sec | 33.3 KB |
| Testcase 4 | Easy | Hidden case | Success | 10 | 0.2597 sec | 34.4 KB |
| Testcase 5 | Easy | Hidden case | Success | 10 | 1.6213 sec | 89.6 KB |
| Testcase 6 | Easy | Hidden case | Success | 10 | 2.005 sec | 87.2 KB |
| Testcase 7 | Easy | Hidden case | Success | 10 | 1.8083 sec | 94 KB |
| Testcase 8 | Easy | Hidden case | Success | 10 | 1.7291 sec | 89.1 KB |
| Testcase 9 | Easy | Hidden case | Success | 10 | 1.6614 sec | 85.7 KB |
| Testcase 10 | Easy | Hidden case | Success | 10 | 1.1497 sec | 86.7 KB |
| Testcase 11 | Easy | Hidden case | Success | 10 | 1.6291 sec | 87.4 KB |
| Testcase 12 | Easy | Hidden case | Success | 10 | 1.6688 sec | 87.7 KB |
| Testcase 13 | Easy | Hidden case | Success | 10 | 2.0247 sec | 94.2 KB |

No Comments