

Problem List

1826. Faulty Sensor

Solved

Easy

Topics

Companies

Hint

An experiment is being conducted in a lab. To ensure accuracy, there are **two** sensors collecting data simultaneously. You are given two arrays `sensor1` and `sensor2`, where `sensor1[i]` and `sensor2[i]` are the i^{th} data points collected by the two sensors.

However, this type of sensor has a chance of being defective, which causes **exactly one** data point to be dropped. After the data is dropped, all the data points to the **right** of the dropped data are **shifted** one place to the left, and the last data point is replaced with some **random value**. It is guaranteed that this random value will **not** be equal to the dropped value.

- For example, if the correct data is `[1,2,3,4,5]` and `3` is dropped, the sensor could return `[1,2,4,5,7]` (the last position can be **any** value, not just `7`).

We know that there is a defect in **at most one** of the sensors. Return the *sensor number* (`1` or `2`) with the defect. If there is **no defect** in either sensor or if it is **impossible** to determine the defective sensor, return `-1`.

Example 1:

Input:

sensor1 = [2,3,4,5], sensor2 = [2,1,3,4]

Output:

1

Explanation:

Sensor 2 has the correct values. The second data point from sensor 2 is dropped, and the last value of sensor 1 is replaced by a 5.

Example 2:

Input:

sensor1 = [2,2,2,2,2], sensor2 = [2,2,2,2,5]

Output:

-1

Explanation:

It is impossible to determine which sensor has a defect. Dropping the last value for either sensor could produce the output for the other sensor.

Example 3:

Input:

sensor1 = [2,3,2,2,3,2], sensor2 = [2,3,2,3,2,7]

Output:

2

Explanation:

Sensor 1 has the correct values. The fourth data point from sensor 1 is dropped, and the last value of sensor 1 is replaced by a 7.

Constraints:

- `sensor1.length == sensor2.length`
- `1 <= sensor1.length <= 100`
- `1 <= sensor1[i], sensor2[i] <= 100`

Seen this question in a real interview before?

Yes

No

Accepted

4.4K

Submissions

8.8K

Acceptance Rate

50.0%

Topics

Companies

Hint 1

Hint 2

Hint 3

Discussion (2)

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2

1

</> Code

Python3

Auto

```
1 class Solution:
2     def badSensor(self, sensor1: List[int], sensor2: List[int]) -> int:
3
4         ans = -1
5
6         for i in range(0, len(sensor1)-1):
7             if sensor1[i] == sensor2[i]:
8                 continue
9             elif sensor1[i] == sensor2[i+1] and sensor1[i+1] != sensor2[i]:
10                 return 1
11             elif sensor1[i+1] == sensor2[i] and sensor1[i] != sensor2[i+1]:
12                 return 2
13
14         return ans
15
```

Saved

Ln 8, Col 25

Testcase

Test Result

Accepted

Runtime: 38 ms

Case 1

Case 2

Case 3

Input

sensor1 = [2,3,4,5]

sensor2 = [2,1,3,4]

Output

1

Expected