Codility_

CodeCheck Report: trainingQAKSTZ-ZDY

Test Name:

Check out Codility training tasks

Summary Timeline

Tasks summary

Task	Time spent	Score
PermMissingElem JavaScript	5 min	100%

Total score

100%

Tasks Details

Easy

1. PermMissingElem

Find the missing element in a given permutation.

Task Score	Correctness	Performance
100%	100%	100%

Task description

An array A consisting of N different integers is given. The array contains integers in the range [1..(N + 1)], which means that exactly one element is missing.

Your goal is to find that missing element.

Write a function:

```
function solution(A);
```

that, given an array A, returns the value of the missing element.

For example, given array A such that:

```
A[0] = 2
A[1] = 3
A[2] = 1
A[3] = 5
```

the function should return 4, as it is the missing element.

Write an **efficient** algorithm for the following assumptions:

- N is an integer within the range [0..100,000];
- the elements of A are all distinct;
- each element of array A is an integer within the range [1..(N + 1)].

Solution

Programming language used:	JavaScript
Total time used:	5 minutes
Effective time used:	5 minutes
Notes:	*not defined yet*

Task timeline

13:12:21 13:16:42

Code: 13:16:42 UTC, js, final, score: 100

show code in pop-up

```
1  // you can write to stdout for debugging purposes, e.g.
2  // console.log('this is a debug message');
3
4  function solution(A) {
5      // write your code in JavaScript (Node.js 8.9.4)
6      let arrayLength = A.length;
7      let arraySum = 0;
8      for(let i = 0; i < arrayLength; i++) {
9          arraySum += A[i];
10     }
11     let expectedArraySum = ((arrayLength + 1) * (arrayLength +
12     return expectedArraySum-arraySum;
13 }
```

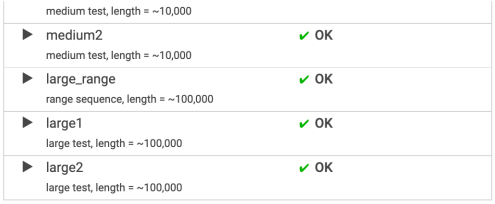
Analysis summary

The solution obtained perfect score.

Analysis

Detected time complexity: **O(N) or O(N * log(N))**

expand all	Example tests	
▶	example example test	✔ OK
expand all	**Correctness tests**	
▶	empty_and_single empty list and single element	✔ OK
▶	missing_first_or_last the first or the last element is missing	✔ OK
▶	single single element	✔ OK
▶	double two elements	✔ OK
▶	simple simple test	✔ OK
expand all	**Performance tests**	
▶	medium1	✔ OK



	medium test, length = ~10,000	
▶	medium2 medium test, length = ~10,000	✔ OK
▶	large_range range sequence, length = ~100,000	✔ OK
▶	large1 large test, length = ~100,000	✔ OK
▶	large2 large test, length = ~100,000	✔ OK