

Test Name:

Summary Timeline

Tasks summary

Task	Time spent	Score
PermMissingElem Java 8	17 min	50%

Total score

50%

Tasks Details

Easy

1. PermMissingElem

Find the missing element in a given permutation.

Task Score

50%

Correctness

20%

Performance ?

80%

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:

```
class Solution { public int solution(int[] 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:

Java 8

Total time used:

17 minutes

?

Effective time used:

17 minutes

?

Notes:

not defined yet

Task timeline

20:08:37

20:24:40

Code: 20:24:39 UTC, java, final, score: 50

[show code in pop-up](#)

1 // you can also use imports, for example:

2 import java.util.*;

3

```
4 // you can write to stdout for debugging purposes, e.g.
5 // System.out.println("this is a debug message");
6
7 class Solution {
8     public int solution(int[] A) {
9         int missingElement = 0;
10        // write your code in Java SE 8
11        Arrays.sort(A);
12
13        for(int i = 0; i < A.length; i++){
14            if(i+1 == A.length){
15                break; // no items missing
16            }
17            int currentVal = A[i];
18            int nextVal = A[i+1];
19            int expectedtNextVal = currentVal+1;
20            if(expectedtNextVal != nextVal && expectedt
21                missingElement = expectedtNextVal;
22                break;
23            }
24        }
25        return missingElement;
26    }
27 }
```

Analysis summary

The following issues have been detected: wrong answers.

For example, for the input [] the solution returned a wrong answer (got 0 expected 1).

Analysis

expand all		Example tests	
▶	example		✓ OK
	example test		
expand all		Correctness tests	
▶	empty_and_single		✗ WRONG ANSWER
	empty list and single element		got 0 expected 1
▼	missing_first_or_last		✗ WRONG ANSWER
	the first or the last element is missing		got 0 expected 6
1.	0.008 s	WRONG ANSWER, got 0 expected 6	
2.	0.008 s	WRONG ANSWER, got 0 expected 1	
▼	single		✗ WRONG ANSWER
	single element		got 0 expected 2
1.	0.012 s	WRONG ANSWER, got 0 expected 2	
2.	0.008 s	WRONG ANSWER, got 0 expected 1	
▶	double		✗ WRONG ANSWER
	two elements		got 0 expected 3
▶	simple		✓ OK
	simple test		
expand all		Performance tests	
▶	medium1		✓ OK
	medium test, length = ~10,000		
▶	medium2		✓ OK
	medium test, length = ~10,000		
▶	large_range		✗ WRONG ANSWER
	range sequence, length = ~100,000		got 0 expected 100001

▶ large1	✓ OK
large test, length = ~100,000	
▶ large2	✓ OK
large test, length = ~100,000	

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