

TASKS DETAILS

EASY	1.	Task Score	Correctness	Performance	?
	PermMissingElem				
	Find the missing element in a given permutation.	50%	20%	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:

```
def 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.

Assume that:

- 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 $[1..(N + 1)]$.

Complexity:

- expected worst-case time complexity is $O(N)$;
- expected worst-case space complexity is $O(1)$ (not counting the storage required for input arguments).

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Solution

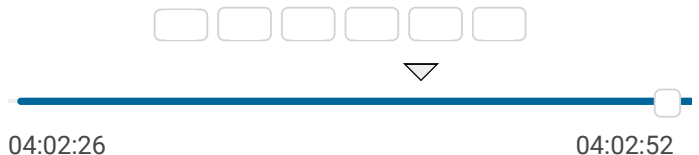
Programming language used: Python

Total time used: 1 minutes ?

Effective time used: 1 minutes ?

Notes: not defined yet

Task timeline ?



Code: 04:02:52 UTC, py, [show code in pop-up](#)
final, score: 50

```
1 def solution(A):
2     A.sort()
3     for idx, value in enumerate(A):
4         if value + 1 != A[idx + 1]:
5             return value + 1
```

Analysis summary

The following issues have been detected: runtime errors.

For example, for the input [] the solution terminated unexpectedly.

Analysis ?

expand all	Example tests
▶ example	✓ OK
example test	

expand all Correctness tests	
▶ empty_and_single empty list and single element	✗ RUNTIME ERROR tested program terminated with exit code 1
▶ missing_first_or_last the first or the last element is missing	✗ RUNTIME ERROR tested program terminated with exit code 1
▶ single single element	✗ RUNTIME ERROR tested program terminated with exit code 1
▶ double two elements	✗ RUNTIME ERROR tested program terminated with exit code 1
▶ simple simple test	✓ OK
expand all Performance tests	
▶ medium1 medium test, length = ~10,000	✓ OK
▶ medium2 medium test, length = ~10,000	✓ OK
▶ large_range range sequence, length = ~100,000	✗ RUNTIME ERROR tested program terminated with exit code 1
▶ large1 large test, length = ~100,000	✓ OK
▶ large2 large test, length = ~100,000	✓ OK