



Candidate Report: Anonymous

Test Name:

[Summary](#) [Timeline](#)

Test Score

100 out of 100 points

100%

Tasks in Test

	Time Spent ⓘ	Task Score
MissingInteger Submitted in: C#	1 min	100%

TASKS DETAILS

MEDIUM	1. MissingInteger	Task Score	Correctness	Performance
	Find the smallest positive integer that does not occur in a given sequence.		100%	100%

Task description

This is a demo task.

Write a function:

```
class Solution { public int solution(int[] A); }
```

that, given an array A of N integers, returns the smallest positive integer (greater than 0) that does not occur in A.

For example, given A = [1, 3, 6, 4, 1, 2], the function should return 5.

Given A = [1, 2, 3], the function should return 4.

Given A = [-1, -3], the function should return 1.

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

- N is an integer within the range [1..100,000];
- each element of array A is an integer within the range [-1,000,000..1,000,000].

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Solution

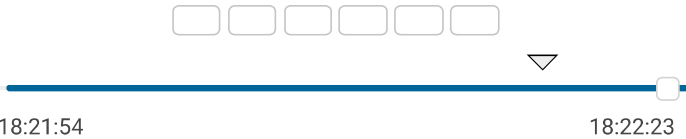
Programming language used: C#

Total time used: 1 minutes ⓘ

Effective time used: 1 minutes ⓘ

Notes: not defined yet

Task timeline ⓘ



Code: 18:22:23 UTC, cs, final, [show code in pop-up](#)
score: 100

```
1 using System;  
2 // you can also use other imports, for example:
```

```

3 // using System.Collections.Generic;
4
5 // you can write to stdout for debugging purposes, e.g.
6 // Console.WriteLine("this is a debug message");
7
8 class Solution {
9     public int solution(int[] A) {
10         // write your code in C# 6.0 with .NET 4.5 (Mono)
11
12         var result = 1;
13
14         Array.Sort(A);
15
16         for (int i = 1; i <= 100000; i++)
17         {
18             if (Array.BinarySearch(A, i) < 0)
19             {
20                 result = i;
21                 break;
22             }
23
24             result = 100001;
25         }
26
27         return result;
28     }
29 }

```

Analysis summary

The solution obtained perfect score.

Analysis ?

Detected time complexity:

$O(N)$ or $O(N * \log(N))$

expand all Example tests	
▶ example1 first example test	✓ OK
▶ example2 second example test	✓ OK
▶ example3 third example test	✓ OK
expand all Correctness tests	
▶ extreme_single a single element	✓ OK
▶ simple simple test	✓ OK
▶ extreme_min_max_value minimal and maximal values	✓ OK
▶ positive_only shuffled sequence of 0...100 and then 102...200	✓ OK
▶ negative_only shuffled sequence -100 ... -1	✓ OK
expand all Performance tests	
▶	

Test results - Codility

medium	✓ OK
chaotic sequences length=10005 (with minus)	
▶ large_1	✓ OK
chaotic + sequence 1, 2, ..., 40000 (without minus)	
▶ large_2	✓ OK
shuffled sequence 1, 2, ..., 100000 (without minus)	
▶ large_3	✓ OK
chaotic + many -1, 1, 2, 3 (with minus)	

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