
ARRAY : Video -

88

Leetcode

- 41

Hard →



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code story with MIK →

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∞ Meta

41. First Missing Positive

1, 2, 3, ...

Hard

Topics



Companies



Hint

Given an unsorted integer array `nums`. Return the smallest positive integer that is not present in `nums`.

You must implement an algorithm that runs in $O(n)$ time and uses $O(1)$ auxiliary space.

Example :-

nums = {1, 2, ~~0~~} 1, 2, 3, 4, ...

output = 3

nums = {3, 4, ~~-1~~, 1}

Output = 2

≤ 0
-1, 0, -3,

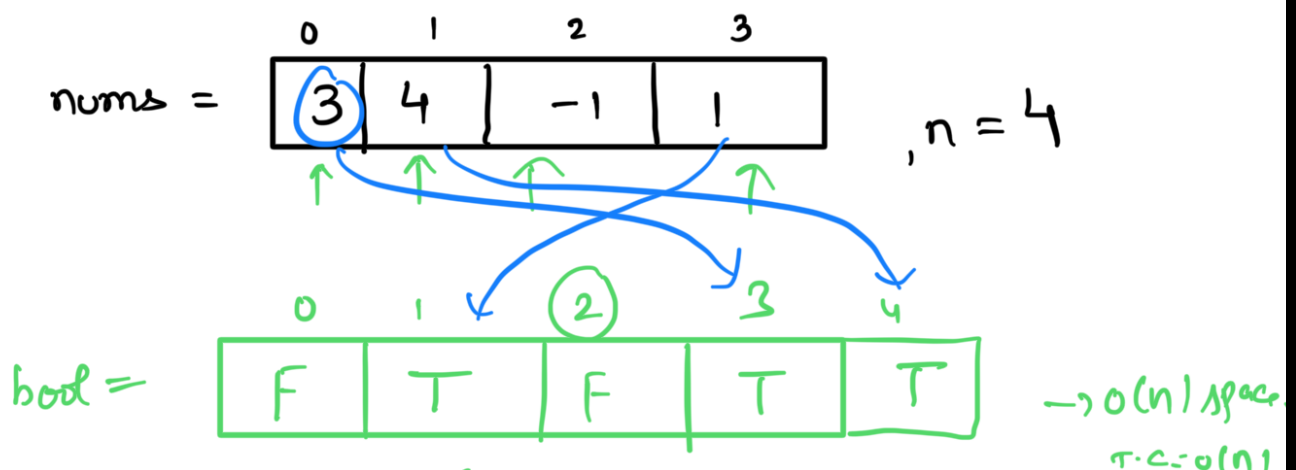
nums = {7, 8, 9, 11, 12}, n = 5

Output = 1

{1, 2, 3, 4, 5}, n = 5

Approach-1

$O(n)$ Space



1, 2, 3, 4, 5, ...

num = 2

Approach-2

"Use numbers as index"

$n = \text{size of array}$

≤ 0
 $> n$



1, 2, 3, 4

$n+1$

nums =

0	1	2	3
-3	-4	-2	-1
x	x	x	x

$n = 4$

$[1, n]$

return $(n+1)$;

num = abs(nums[i]); // 1

idx = num - 1 ; // 0

0	1	2	3
3	4	2	0 ¹
↑	↑	↑	↑

Count = False

≤ 0

$> n$

num =

idx =

(1, n)

nums =

0	1	2	3
-3	4	-1	-1
i	j	i	i

, n = 4

contains1 = True

num = 1

idx = 0

2

nums =

0	1	2	3	4	5	6	7	8	9
3	4	1	2	1	5	1	0	2	0

, n = 10

contains1 = True

0	1	2	3	4	5	6	7	8	9
<u>-3</u>	<u>-4</u>	<u>-1</u>	<u>-1</u>	<u>-1</u>	5	1	1	2	1
i	i	i	i	i	i	i	i	i	i

, n = 10
i

1, 2, 3, 4, 5, 6

6 → (6-1) 5

5
↓
11

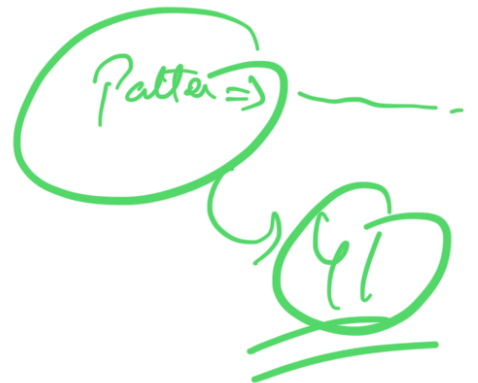
T.C = $O(n)$ (2 pass).

S.C = $O(1)$.



$[1, n]$, n

1



the 1990s, the number of people in the UK who are employed in the public sector has increased by 1.5 million (1990–1999) (Department of Health 2000).

There is a growing emphasis on the need to improve the quality of care in the public sector. The Department of Health (2000) has set out a number of key objectives for the public sector, including the need to improve the quality of care, to reduce waiting times, to improve the efficiency of the system, and to improve the experience of patients. The Department of Health (2000) has also set out a number of key objectives for the private sector, including the need to improve the quality of care, to reduce waiting times, to improve the efficiency of the system, and to improve the experience of patients.

The Department of Health (2000) has also set out a number of key objectives for the voluntary sector, including the need to improve the quality of care, to reduce waiting times, to improve the efficiency of the system, and to improve the experience of patients.

The Department of Health (2000) has also set out a number of key objectives for the independent sector, including the need to improve the quality of care, to reduce waiting times, to improve the efficiency of the system, and to improve the experience of patients.

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...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information science' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

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