

Problem statement

You are given a sorted integer array '**arr**' of size '**n**'.

You need to remove the duplicates from the array such that each element appears only once.

Return the length of this new array.

Note:

Do not allocate extra space for another array. You need to do this by modifying the given input array in place with $O(1)$ extra memory.

For example:

'n' = 5, 'arr' = [1 2 2 2 3].

The new array will be [1 2 3].

So our answer is 3.

Detailed explanation (Input/output format, Notes, Images)**Sample input 1:**

```
10
1 2 2 3 3 3 4 4 5 5
```

Sample output 1:

```
5
```

Explanation of sample input 1:

The new array will be [1 2 3 4 5].

So our answer is 5.

Sample input 2:

```
9
1 1 2 3 3 4 5 5 5
```

Sample output 2:

```
5
```

Expected time complexity:

The expected time complexity is $O(n)$.

Constraints :

```
1 <= 'n' <= 10^6
-10^9 <= 'arr[i]' <= 10^9
```

Where '**arr[i]**' is the value of elements of the array.

Time limit: 1 sec