##Not allowed to modify original array

##solve by checking index of duplicated value within a range

##if more than possible num of elements within interval, pick this interval

##compute index of start==end, check if this index is dup, if yes, return it.

class Solution(object):

def duplicateInArray(self, nums):

"""

:type nums: List[int]

:rtype int

"""

def count(nums,start,end):

ret = 0

for ele in nums:

if start<=ele<=end:

ret+=1

return ret

start = 0

end = len(nums)-1

while start<end:

#print (start,end)

mid = (start+end)//2

if count(nums,start,mid)>mid-start+1:

end = mid

else:

start = mid+1

if start==end:

#print (start,end)

if count(nums,start,end)>1:

#print (count(nums,start,end))

return start

return 0

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link：https://www.acwing.com/activity/content/code/content/16843/

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