

10 FEBRUARY
2020 MONDAY

সোমবার
২৮ মাঘ, ১৪২৬ বাংলা
১৫ জামঃ সানি, ১৪৪১ হিজরী

Cracking the code interview

Date 17/7/2021

class - 01

python এ array \rightarrow list

> a = [] \leftarrow empty list

> a.append(5)

5	8	9	
0	1	2	

> a.append(8)

> a.append(9)

> a.pop()

5	8
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 LIFO

why python doesn't need to 'declare' array length

5	6	8	9	11	13
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~~***~~ Array no search time : $O(n)$

worst case \rightarrow n array operation
সর্বোচ্চ $\text{len(array)} = n$

11 FEBRUARY
2020 TUESDAY

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* target = 5
a = [1, 8, 13, 5, 4]
start = 0
end = len(a)
while start < end:
if a[start] == target:
print
~~start = start + 1~~ start += 1

* ~~Swapping~~ Reverse a = [1, 2, 3, 4]

~~arr~~ result = []
start = len(a) - 1 → 4 - 1 = 3
end = 0

while start >= 0: 3 >= 0 ✓

result.append(a[start]) [3, 2, 1, 0]

start -= 1

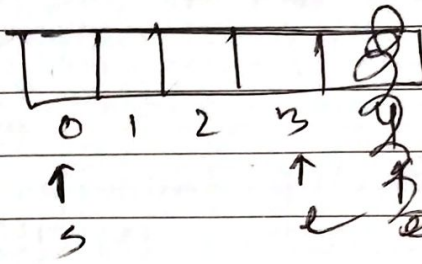
-1 >= 0 ✗

~~Swapping~~
S.C. O(n)

worst case complexity → ~~arr~~ arr → O(n)

↓ (1) a = [1, 2, 3, 4]

~~arr~~ arr
arr
arr



$T: O(n)$

$S: O(n)$

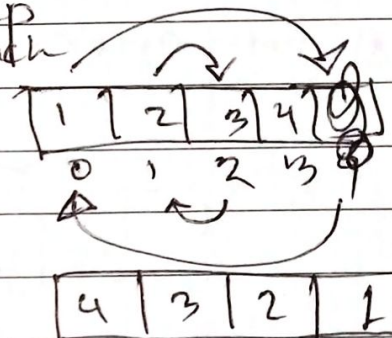
$S: O(1)$

method = inplace swap
two pointer approach

even length - $n/2$ swap

odd - $n/2$ swap

swap (start $s=e$)



$T: O(n/2) \rightarrow O(n)$

$C: O(n)$ as no new space allocated

Ans. ~~leetcode~~ Problem (1) Two Sum

Two pointer approach

$s = 0$

$e = \text{len}(a) - 1$

while $s < e$:

$a[s], a[e] = a[e], a[s]$

$s++$

$e--$

temp data use
not use $40(2.3)$ space

Ans. deadline
Monday Day before class