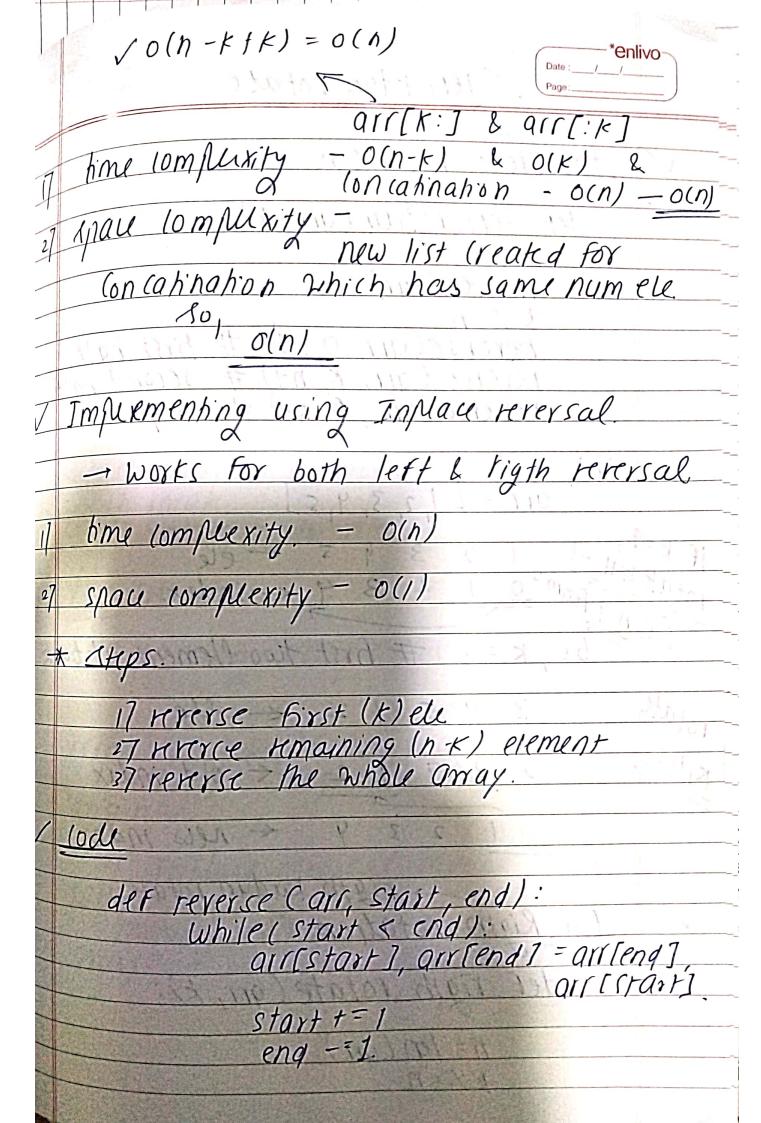
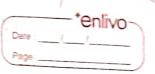
	Date:	
	Array Rotation	
27.0	17 left rotation - each element is shifted one poistion to the left, and the first element mores to the end.	
	27 <u>rigth</u> rotation - elements are shifted to the rigth and the last element mores to the fromt.	
Make.		`
1000	Ex. Original - [1,2,3,4,5]	
	nigth rotation - [5, 1, 2, 3, 4]	
	left rotation - [2,3,4,5,1]	- 1
	Methods	
	2 1igth	
	17 Brute Force (for 1474 (otation) 27 In Mace reversal algo. (optimal)	7
1 6/15	1 11 Jaac 101013a1 0190. 10/911110	45
V	impunting wing brute Force memod	-
	d d	\
100/	def left rotati (arr, k): n= len(arr)	_
11	a TK= KIN # incose KIN.	_
10	Stirtym arr[k:] + arr[:k]	_
100/10	4 Ex. 14n = 7 & t=8	
10//	4 12. 17/1 1 4 1-8	
10//	K Becomes 1. and gives	_
	one com NUK ropahan H. (i.e. 1)	



18ff kdun rotate for left rotation der left\_rotati (arr, k): n= len(gri) side and wide reverse (arr, o, k-1) # hirst half reverse (arr, k, n-1) # Second half reverse (arr, o, n-1) # computer fom 0 1 2 3 4 5 ele from 0 1 2 3 4 < index. be, K = 2 # First two flement at back rotate 01234 - NEW Index - rigth kadyn rotate For Right rotation def rigth rotate (qr1, k): n= len (air) k/=n



reverse (arr, b kx)

reverse (arr, b kx)

reverse (arr, b kx)

reverse (arr, o, n-1) # (ompute reverse (arr, o, k-1) # 1st half reverse (arr, k, n-1) # 2nd half

skps.

1] rotate compute 17 rotate 0, to k-1 37 rotate k, to n-1

Note: don't inange step order.

Very IMP Note

17 passing array of list like

grol:] -> this makes the nonrefuncial copy of amay and uses it. So making thanges to lopy doesn't affect original.

2) Inplace reversal moons reversal without (reaking extra space, making exturion faster in large grays.

vithelps you loop back of an away once you reach modulo based indexing -> Using the 1. modulo oprator to wrap around indiccies when they go out of bonds. Ex. arr=[10, 20, 30] n=len(arr) For i in Range (10):

print (air [i'.n])

# aviods index out of range error. Use coses 17 Circuler Queues 27 rotation (Icff (rigth)

37 hashing (hosh table index

= hash (key) 1.5ize) 47 sound - Robin algo. 2 57 Mandling over flow in away

presibaly use Binary Bearch
presibally use Binary Bearch Page
rigth rotation using brute force
def rigth_rotate(air, k):
K= K/m on your on the
return orr [-k:] + grr [:-k]
Thine complexity - o(n)
75pay 10m - 10(n)
Service Victorians
The transfer of the second of
10 + 10 + 10 + 10 + 10 + 10 + 10 + 10 +
Thirty of the state