

8 Find if array is sorted or not.

arr = [1, 2, 4, 8, 9, 12]

arr = [1, 2, 4, 3, 8, 9]

[1, 2, 4, 8, 9, 12]

arr[i] < arr[i+1] & sorted()

arr = [1, 2, 4, 5]

(arr, 0) T

↓
1 < 2 & & (arr, 1)
T

↓
2 < 4 & & (arr, 2)
T

all arr in the function
call are taking
reference from the same
array

↓
(4, 5) & & (arr, 3)
T

Q Linear search using recursion

arr = [3, 2, 1, 18, 9], target = 18

(arr, target, 0)

↓
arr[0] = target || (arr, target, 1)

↓
arr[i] = target || (arr, target, 2)

array out of bound

False

Q returning ArrayList

arr = [1, 2, 3, 4, 4, 8] , (target = 4)

ans = [3, 4]

fun(arr, target, index, list)

if (index == end) {

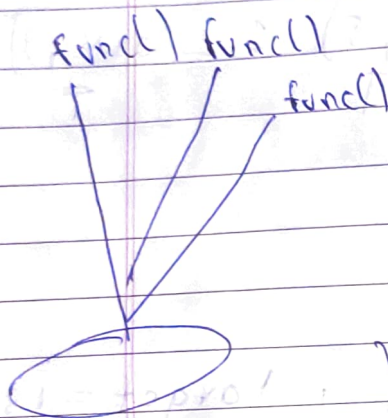
return list

if (target == arr[index])

add in list

Keep going

return function

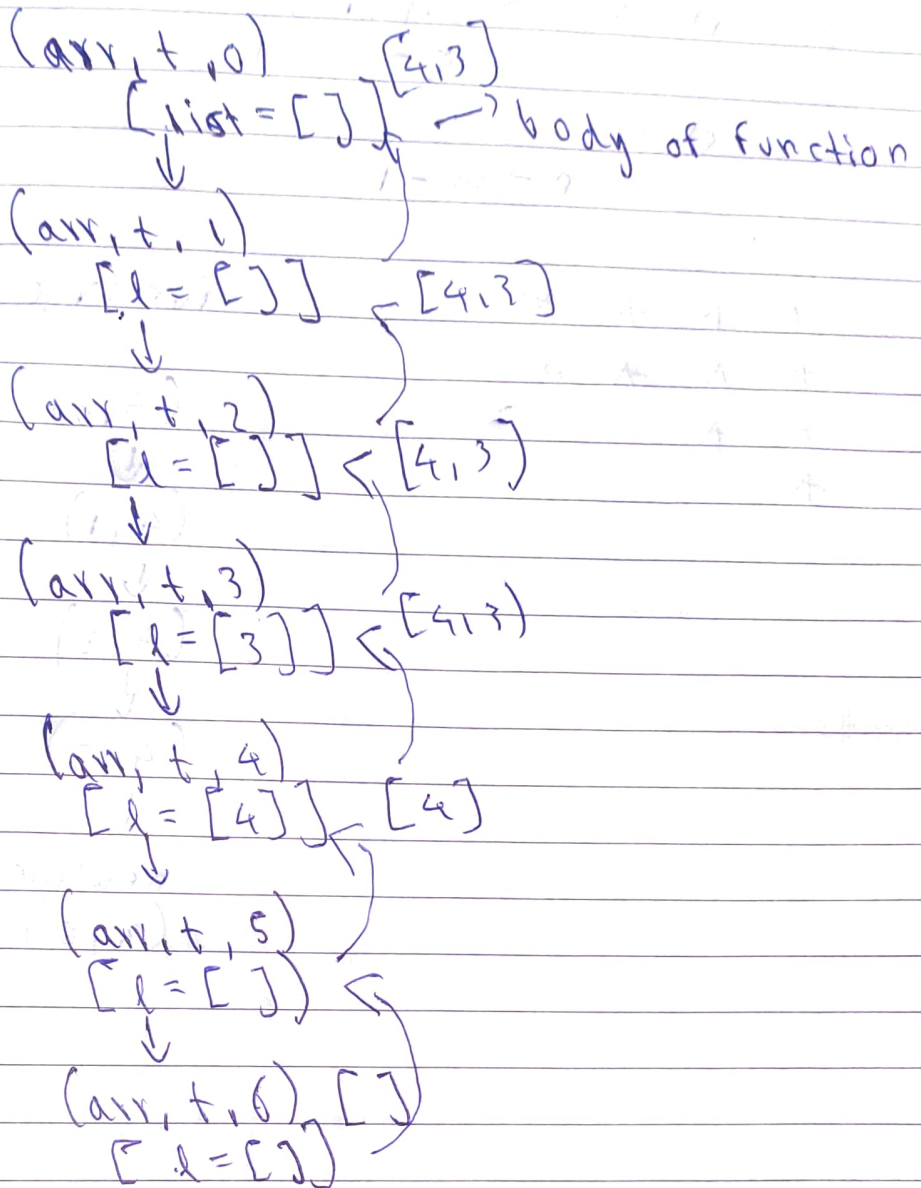


Q VVI : Goal :- ~~*~~ return the list
~~*~~ don't take it in argument

challenges :- ~~*~~ return type will be AL

problem :- Every call will have a new list,

arr = [1, 2, 3, 4, 4, 8] , target = 4



8

0 1 2 3 4 5 6 7
 $arr = [5, 6, 7, 8, 9, 1, 2, 3]$

① if $arr[s] \leq arr[mid]$
 if $key \geq arr[s] \& \leq arr[mid]$
 $end = mid - 1$
 else
 $s = s + 1$

② if $\text{key} > \text{arr}[m] \ \& \ \leq \text{arr}[e]$
 $s = m + 1$

else

$e = m - 1$

fun(x, c)

(4, 0)

(4, 0)

↓

(4, 1)

↓

(4, 2)

↓

(4, 3)

↓

newline

(3, 0)

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