

Searching and sorting lin

1

a1

a2

[1, 4, 5, 8] [2, 3, 6]

1. combine two arrays

[1, 2, 3, 4, 5, 6, 8] $O(n+m)$

2. get the median

if odd $\Rightarrow arr[\text{length}/2]$

if even $\Rightarrow arr[0.5(arr[\text{length}/2] + arr[\text{length}/2 + 1])]$

1

arr = []

j = len(arr) - 1

for (j + j > 0)

if (a1[i] < a2[j])

arr = a2[j] + arr

else

arr = arr[j] + a1[i]

i++

[1, 4, 5, 8] [2, 3, 6]

[1, 2, 3, 4, 5, 6, 8]

arr = []

i = len(a1) - 1

j = len(a2) - 1

while (j + i < len(a1) + len(a2) - 1)

if (i == len(a1) - 1)

arr = a1[i] + arr

i++

if (j == len(a2) - 1)

arr = a2[j] + arr

j++

if (a1[i] < a2[j])

arr = arr + a2[j]

j++

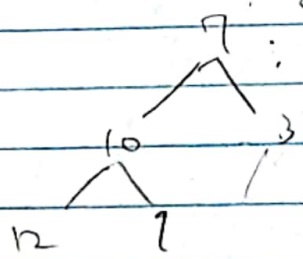
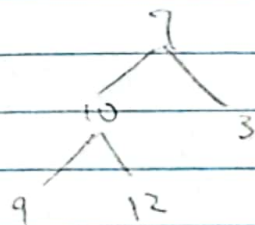
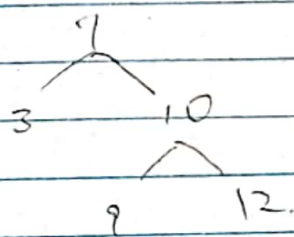
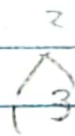
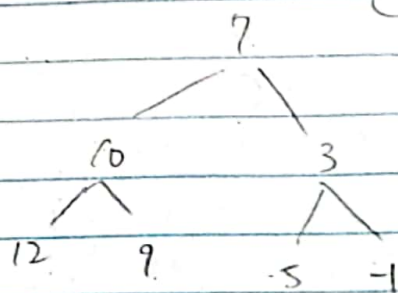
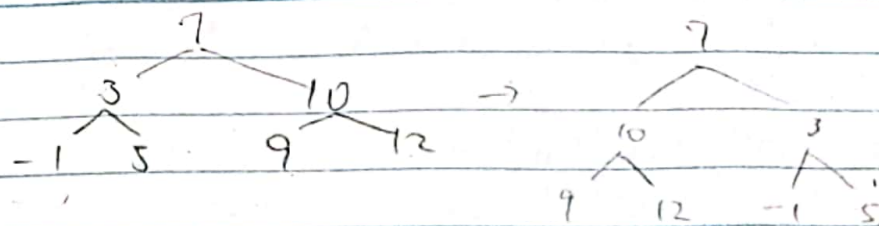
else

arr = arr + a1[i]

i++

Recursion hw.

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if rec(T)

if T is none:

return

if T.left is none && T.right is none

T.left = T.right

T.right = None

return rec(T.right)

T.right, T.left = T.left, T.right

return(T.left, T.right)