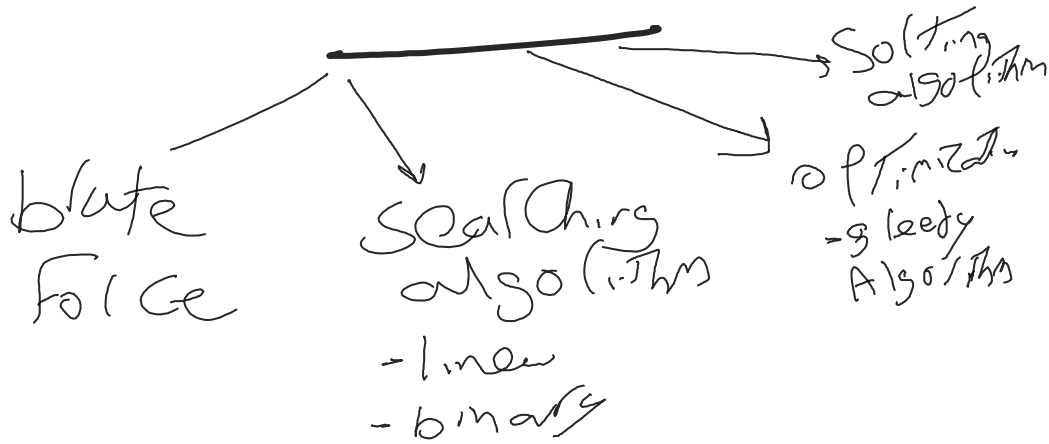



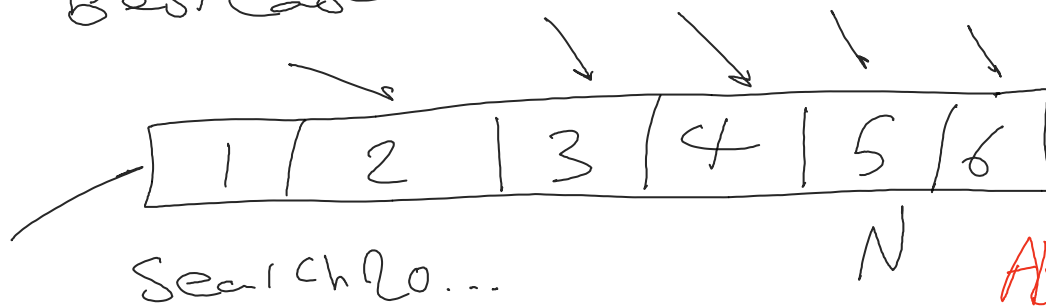


Saturday, 22 October 2022 7:12 PM

Algorithms



- Worst Case ✓ 
- Average Case 
- Best Case 



linear Search

- should not be sorted
- Time Complexity $O(N)$

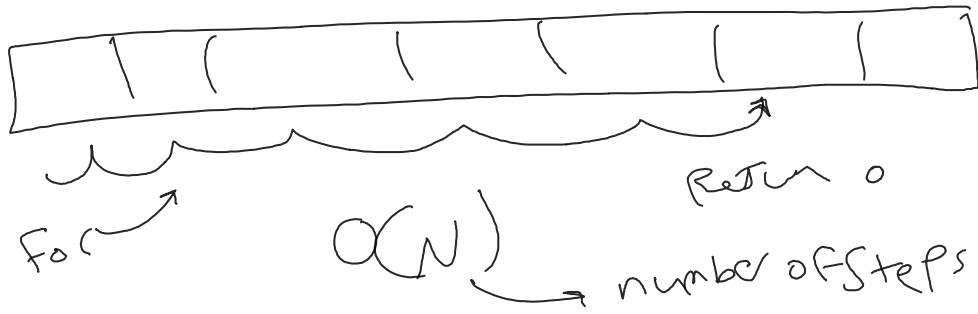


Binary Search

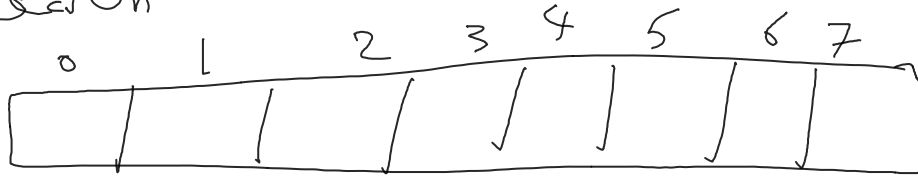
- array should be sorted
- $O(\log n)$



linear search



binary search



low = 0

high = n - 1 = 7

middle = (low + high) / 2 = 3

if arr[middle] = Number

else if

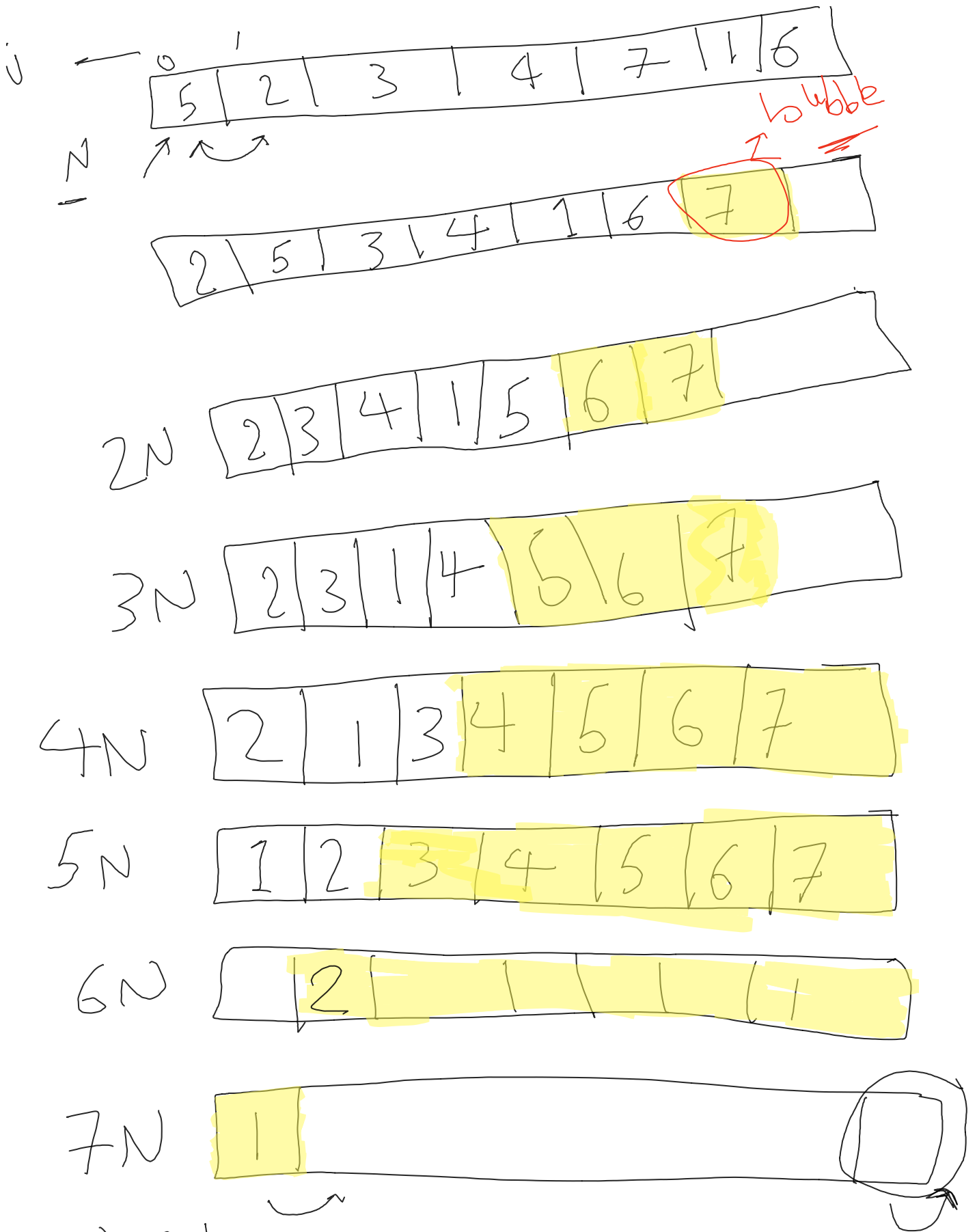
low = middle + 1

else

high = middle - 1

Sorting algorithm

① bubble Sort



PseudoCode

for i from $n-1$

For $j = 0$ to $n-1$

for $j = 0$, range $n-1$

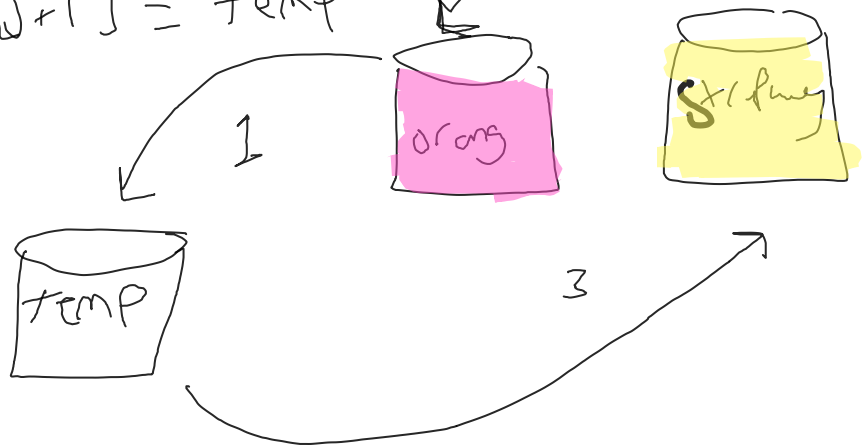
if ($arr[i] > arr[i+1]$)

1 $temp = arr[i]$

2 $arr[i] = arr[i+1]$

3 $arr[i+1] = temp$

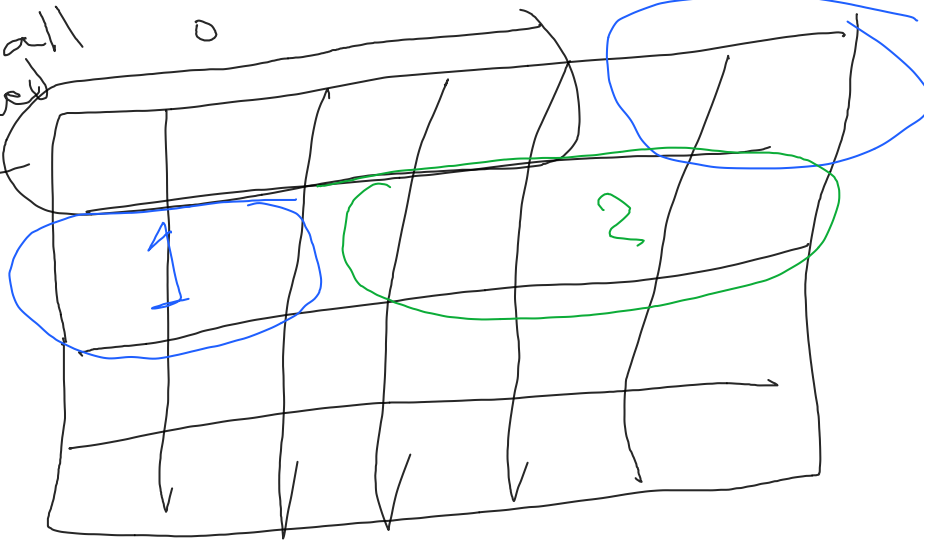
Swap



Size of

Print all
resolved
space

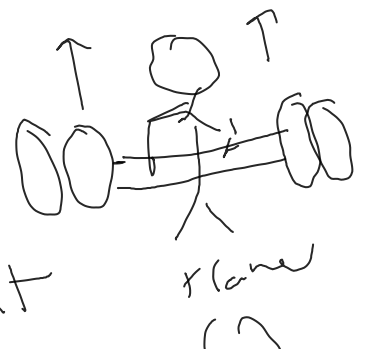
int array [3];
1 2 3
4 bytes

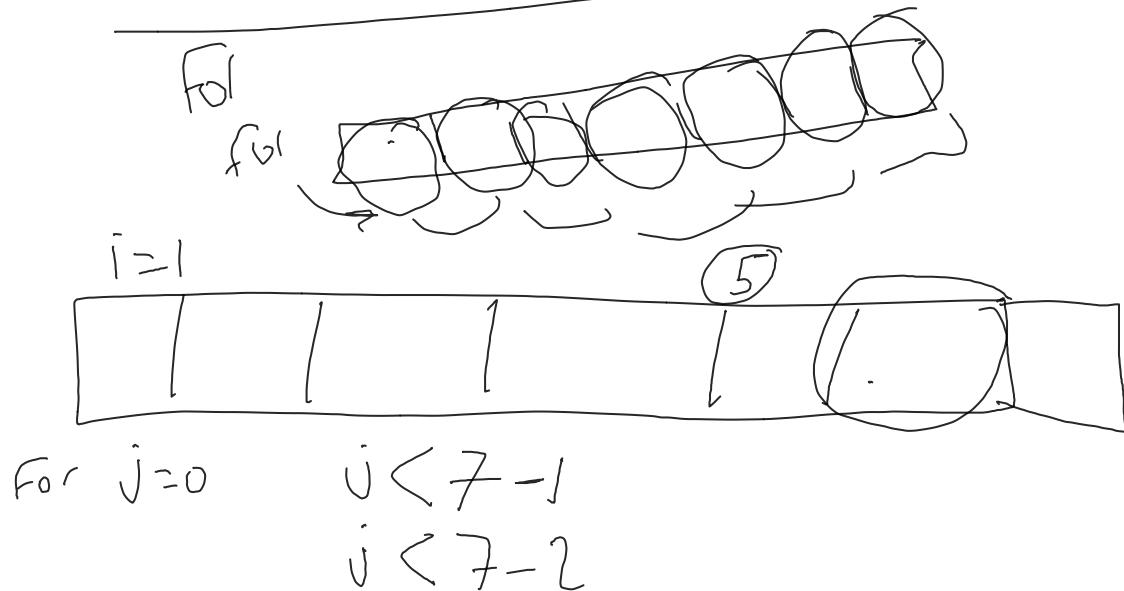


Nested For

For → 3 Groups

For → 10
→ plays count



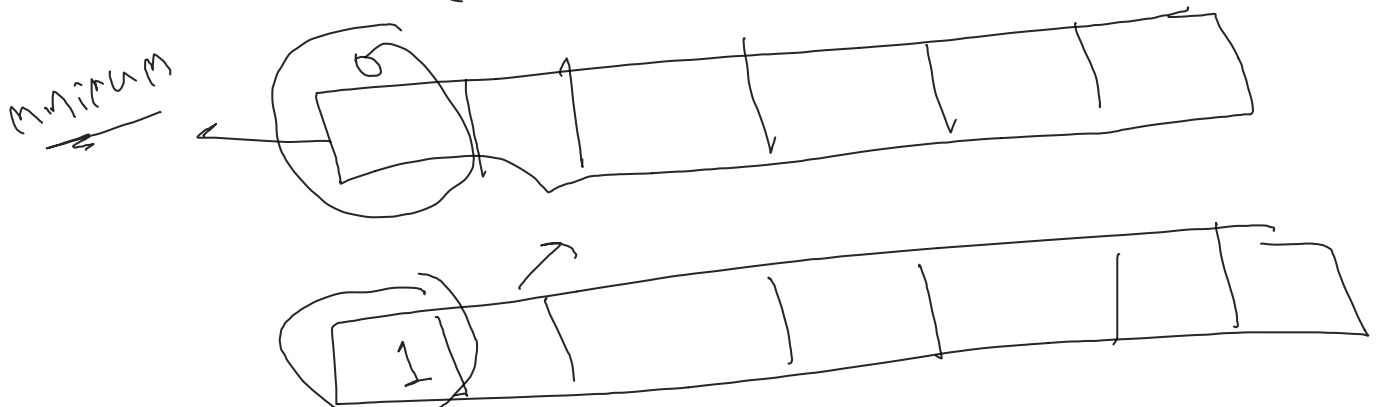


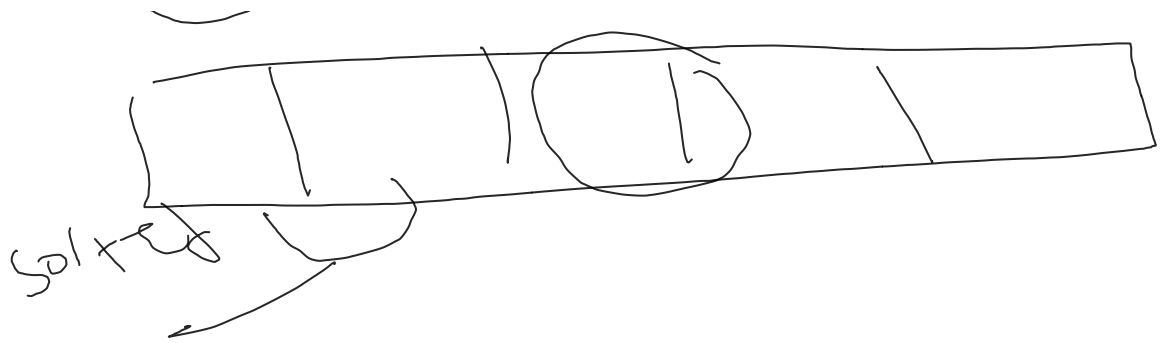
$$\Omega(N)$$

$$O(N^2)$$

selection sort

iterate until find the minimum
 swap (minimum, first element)





Merge Sort

time complexity $O(n \log n)$

space complexity $O(N)$