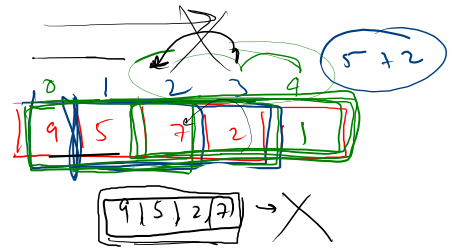
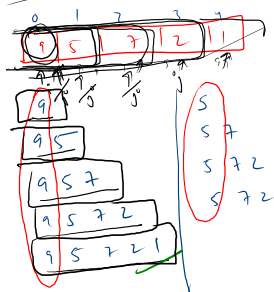


# Subarray ? -



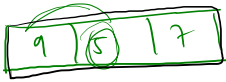
$i = \text{loop}$  for  $(int\ i = 0; i < n; i++)$   
 $j = \text{loop}$  for  $(int\ j = i; j < n; j++)$   
 $K = \text{printing}$  for  $(int\ k = i; k <= j; k++)$   
 }  
 }  
 }

$i = 0 < 5$   
 $j = 0 < 5$   
 $k = 0 < 0 (T) \rightarrow 9$   
 $k = 1 < 0 (F) \times$   
 $j = 1 < 5$   
 $k = 0 < 1 \rightarrow 9\ 5$   
 $k = 1 < 1$   
 $k = 2 < 1 (F)$

$i = 2 < 5 (T)$   
 $k = 0 < 2$   
 $9\ 5\ 7$   
 $j = 3 < 5 (T)$   
 $k = 0 < 3$   
 $9\ 5\ 7\ 2$   
 $j = 4 < 5 (T)$   
 $k = 0 < 4$   
 $9\ 5\ 7\ 2\ 1$

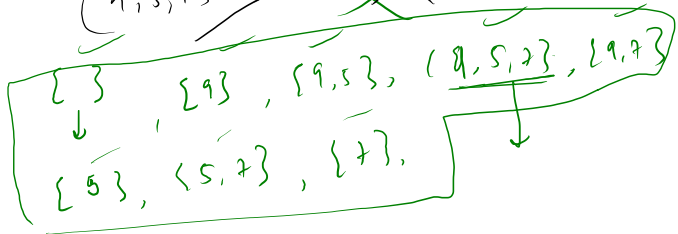
$j = 5 < 5 (F)$   
 $i = 1 < 5 (T)$   
 $j = 1 < 5 (T)$   
 $k = 1 < 1 \rightarrow 5$   
 $k = 2 < 1 (F)$   
 $j = 2 < 5 (T)$   
 $k = 1 < 2$   
 $5\ 7$   
 $i = 2$   
 $i = 3, i = 4, i = 5 (F)$

Subset : any part of an array -

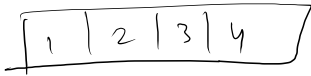


$\{9, 7\}$  ✓ subset

$\{9, 5, 7\}$  ~~subarray~~



\* Every subarray is a subset  
 \* vice versa  $\times$

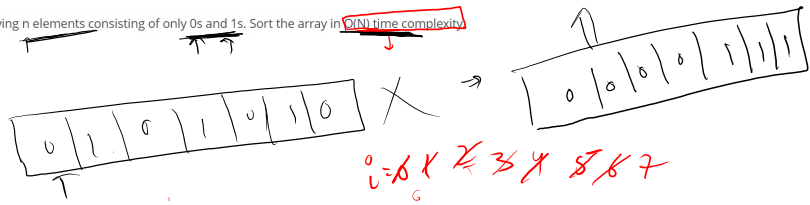


# Zeroes and Ones

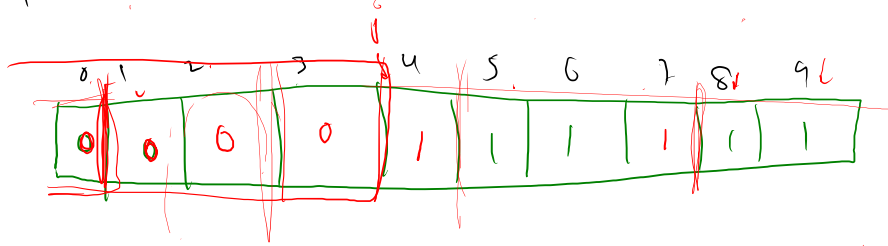
Problem	Submissions	Leaderboard	Discussions
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Given an array having n elements consisting of only 0s and 1s. Sort the array in  $O(N)$  time complexity.

~~$O(n^2)$~~



~~$i = 0, 1, 2, 3, 4, 5, 6, 7$~~



$i \rightarrow 0$   
 $i \rightarrow i-1$   
 $0 \rightarrow j-1$

```
if (arr[i] == 1)
    i++;
else
    swap(arr, i, j);
    i++;
    j++;
```

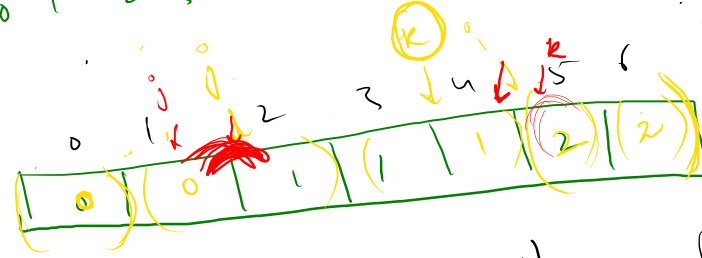
$\Rightarrow x \neq y \neq z$

0	2	1	1	0	2	1
0	1	2	3	4	5	6

8 waf ( )

$i \rightarrow \mathbb{R} [u]$   
 $0 \rightarrow j-1 [0]$   
 $(i \rightarrow i-1) [1]$   
 $k \rightarrow e [2]$

white (ick)



if (a00[i] == 1)

{

    i++;

}

```
else if (arr[i] == 0)
{
    swap(arr, i, j);
    i++;
    j++;
}
```

```

else
    swap(arr, i, k);
    k--;
}

```