


Dutch National Flag Problem:-

Pb: arr \rightarrow 0, 1 and 2 only

You need to sort this array in place.

arr: [0 0 0 1 1 1 1 0 1 1 0 2 2 2]

① ~~arr.sort()~~ : $O(N \cdot \log N)$

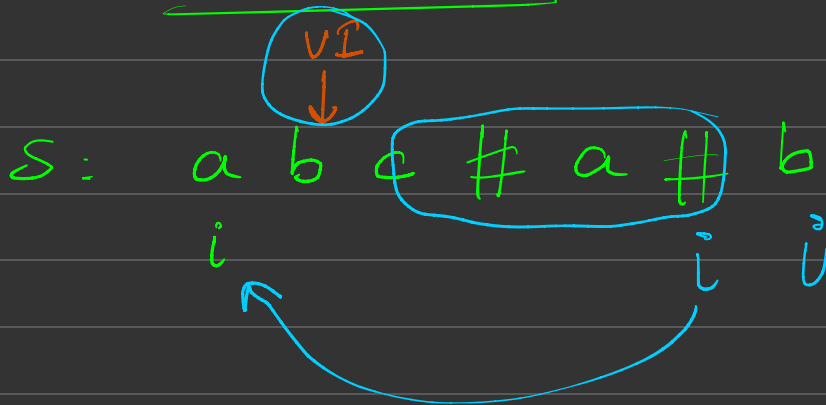
② ones, zeros and twos : count : $O(N)$

~~ones = 0 1 2 3 4 (8)~~
~~zeros = 0 1 2 3 (6)~~
~~twos = 0 1 (2)~~

in-place

ans: [0 0 0 0 0 0 1 1 1 1 1 1 2 2]

Next Valid character:



a b c # a # b

$bs = x\phi x^o$

↑
index

```
def backspaceCompare(s, t):
```

```
    i, j = len(s)-1, len(t)-1
```

```
    while i ≥ 0 or j ≥ 0 :
```

```
        vI1 = validIndex(s, i)
```

```
        vI2 = validIndex(t, j)
```

```
        if vI1 < 0 and vI2 < 0:  
            return True
```

```
        if vI1 < 0 or vI2 < 0:  
            return False
```

```
        if s[vI1] != t[vI2] :  
            return False
```

```
        i = vI1 - 1
```

```
        j = vI2 - 1
```

```
def validIndex(string, index)  
    backspace = 0
```

```
    while (index  $\geq$  0):
```

```
        if string[index] == '#':  
            backspace += 1
```

```
        elif backspace > 0:  
            backspace -= 1
```

```
        else:  
            break
```

```
        index -= 1
```

```
    return index
```

```
          
          
        
```