



# Cyclic Sort



# Contents

1. Kahan lagaana hai ye Algo
2. Sawaal

# Where to Apply? 1 to n, 0 to n-1, 0 to n



arr =

0	1	2	3	4	5	6	7
5	1	2	3	4	6	7	0

*i*

swaps  
0

```
int i = 0;
while(i < n) {
    if(arr[i] == i) i++;
    else {
        int idx = arr[i];
        swap(arr[idx], arr[i]);
    }
}
```



Ques: Missing In Array

arr = { 8 2 4 5 3 7 1 }

1 2 3 4 5 6 7

0 1 2 3 4 5 6

arr = { 1 2 3 4 5 8 7 }

0 1 2 3 4 5 6

arr = { 1 2 3 4 5 6 7 }

i

Leetcode 268 → HW

# Ques: Array Duplicates

$arr = \begin{matrix} & 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 \\ \{ & 1 & 7 & 3 & 4 & 8 & 8 & 7 & 8 \end{matrix}$

ans = {7, 8, 8}



# HW: Find the duplicate Number

arr = { 0 1 2 3 4 5 6  
4 2 4 4 1 6 3 }



**HW:** Find all numbers disappeared in the array

**Leetcode 448**



# HW: Set Mismatch

Leetcode 645



# Ques: Smallest Positive Missing

$$\begin{array}{ccccccc}
 & 0 & 1 & 2 & 3 & 4 & 5 & 6 \\
 \text{arr} = \{ & 1 & -4 & 3 & 9 & 0 & 3 & 7 \}
 \end{array}$$

i

$$\begin{array}{cccccc}
 & 0 & 1 & 2 & 3 & 4 \\
 \text{arr} = \{ & 1 & 2 & 3 & 4 & 5 & \}
 \end{array}$$

i





THANKYOU

*Cuties*