Eg: n = 8 , Arr = [4, 2, 5, 4, 2, 3, 3, 1]

Take XOR of all Number

	8	4	2	1
4	0	1	0	0
2	0	0	1	0
5	0	1	0	1
4	0	1	0	0
2	0	0	1	0
3	0	0	1	1
3	0	0	1	1
1	0	0	0	1
	0	1	0	0

4^2^5^4^2^3^3^1

= 5^1 = (4)

→ 5^1 can be written as

0	1	0	1
0	0	0	1
0	1	0	0

Every Bit with 0 is same, But Every bit with 1 is differen

This says that → Every Bit with One group up to form 5 & Every bit with 0 group up to form 1

So from 4 [0 1 0 0] → we can Extract 5, 1

Grab Every bit with 1

= 4 ^ 5 ^ 4 = 5

Grab Every bit with 0

2 ^ 2 ^ 3 ^ 3 ^ 1

= 1

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

Op = [5, 1]

Example 2 : N = 8 , [36, 50, 24, 56, 36, 24, 42, 50]

XOR :	32	16	8	4	2	1
36	1	0	0	1	0	0
50 :	1	1	0	0	1	0
24	0	1	1	0	0	0
56 :	1	1	1	0	0	0
36 :	1	0	0	1	0	0
24 :	0	1	1	0	0	0
42 :	1	0	1	0	1	0
50 :	1	1	0	0	1	0
18 :	0	1	0	0	1	0

From 18, we need to Extract 2 distinct Number

XOR = 36 ^ 50 ^ 24 ^ 56 ^ 36 ^ 24 ^ 42 ^ 50

= 56 ^ 42 = 18

we can also write 18 as 56 ^ 42

56:	1	1	1	0	0	0
42:	1	0	1	0	1	0
	0	1	0	0	1	0

Observe, where Ever there is One the bits are different

The Rightmost bit tells that

0 → makes up 56

1 → makes up 42

0: 36 ^ 24 ^ 56 ^ 36 ^ 24

= 56

1 = 50 ^ 42 ^ 50

= 42

[56, 42]

	32	16	8	4	2	1
36	1	0	0	1	0	0
50	1	1	0	0	1	0
24	0	1	1	0	0	0
56	1	1	1	0	0	0
36	1	0	0	1	0	0
24	0	1	1	0	0	0
42	1	0	1	0	1	0
50	1	1	0	0	1	0

Check Right Most bit

0 1 0 0 1 0