

## DAY 28

### INTERVIEW BIT PROBLEMS :

#### 1. Find Duplicate in Array

Given a read only array of  $n + 1$  integers between 1 and  $n$ , find one number that repeats in linear time using less than  $O(n)$  space and traversing the stream sequentially  $O(1)$  times.

**Sample Input:**

[3 4 1 4 1]

**Sample Output:**

1

If there are multiple possible answers ( like in the sample case above ), **output any one.**

**CODE :**

**PYTHON**

class Solution:

**# @param A : tuple of integers**

**# @return an integer**

def repeatedNumber(self, A):

list\_sum = sum(A)

n = len(A)

sum\_n = int(n \* (n + 1) / 2) - n

return list\_sum - sum\_n