DAY 14

INTERVIEW BIT PROBLEMS :

1. Rearrange Array

Rearrange a given array so that Arr[i] becomes Arr[Arr[i]] with O(1) extra space.
Example:
Input : [1, 0]
Return : [0, 1]

Lets say N = size of the array. Then, following holds true :
All elements in the array are in the range [0, N-1]
N * N does not overflow for a signed integer

CODE :

PYTHON

```
class Solution:
    # @param A : list of integers
    # Modify the array A which is passed by reference.
    # You do not need to return anything in this case.
    def arrange(self, A):
        n = len(A)
        for i in range(n):
            A[i] += (A[A[i]]%n)*n
        for i in range(n):
            A[i] = A[i]//n
```

2. Roman To Integer

Given a string A representing a roman numeral.
Convert A into integer.
A is guaranteed to be within the range from 1 to 3999.
Input Format
The only argument given is string A.
Output Format
Return an integer which is the integer verison of roman numeral string.
For Example
Input 1:
A = "XIV"
Output 1:
14

Input 2:
A = "XX"
Output 2:
20

CODE :

PYTHON

```
class Solution:
    # @param A : string
    # @return an integer
    def romanToInt(self, A):
        roman_dict={'I':1,'V':5,'X':10,'L':50,'C':100,'D':500,'M':1000}
        k=0
        result=0
        n=len(A)
        for x in range(n-1,-1,-1):
            if roman_dict[A[x]]>=k:
                result+=roman_dict[A[x]]
            else:
                result-=roman_dict[A[x]]
            k=roman_dict[A[x]]
        return result
```