

### \* Problem statement :-

- We are given two arrays  $arr1$  &  $arr2$ . Both the arrays are unsorted.
- We need to find the intersection of both of these arrays & return it in a new array.
- The returned array should consist of unique elements.

### \* Examples :-

$nums1 = [1, 2, 2, 1]$      $nums2 = [2, 2]$

Output =  $[2]$

$nums1 = [4, 9, 5]$      $nums2 = [9, 4, 9, 8, 4]$

Output =  $[4, 9]$  or  $[9, 4]$

### \* Brute force approach :-

- Create an arraylist result.
- Loop over both the arrays and check if  $nums1[i] == nums2[i]$  & the result arraylist consists does not contain  $nums1[i]$ .
- If true, then add that element to result.
- Break the loop once match found.
- Convert the result arraylist to a normal array & return it.

Time complexity :-  $O(m \times n) \approx O(n^2)$

Space complexity :-  $O(k)$  where  $k$  is the size of the arraylist.

- We will be getting a TLE on leetcode.

### \* Using HashSet :-

- Do this when you have learned about sets.