LETS START OF THE DSA DAY !

DAY\_@2:

Que-1-find the most water

<https://leetcode.com/problems/container-with-most-water/description/>

def max\_water(array):

max\_result=0

n=len(array)-1

left=0,

right=n-1

while(left<right):

area=(right-left)\*min(array[left] ,array[right])

max\_result=max(res, area)

if(array[left]<array[right]):

left+=1

else:

right-=1

return max\_result

print(max\_water())

Que2-duplicate element in array

link=<https://leetcode.com/problems/find-the-duplicate-number/description/>

def duplicate(nums):

left, right = 1, len(nums) - 1

while left < right:

mid = (left + right) // 2

count = sum(1 for num in nums if num <= mid)

if count > mid:

right = mid

else:

left = mid + 1

return left

# Test the function ,array = [1, 3, 4, 2, 2],print(duplicate(array)) # Output should be 2

Que3-two sum-II

link=[https://leetcode.com/problems/2sum/description/](https://leetcode.com/problems/3sum/description/)

def sum\_II(array , target):

left , right=0 , len(array)-1

while(left<right):

cur\_sum=array[left]+array[right]

if(cur\_sum>target):

right-=1

elif(cur\_sum<target):

left+=1

else:

return [left+1 , right+1]

return None

array=[2,3,5,5,7,8]

print(sum\_II(array , 8))

Que4-three sum

link=<https://leetcode.com/problems/3sum/description/>

def three\_sum(nums):

res=[]

nums.sort()

for i , a in enumerate(nums):

if i>0 and a == nums[i-1]:

continue

l ,r = i+1, len(nums)-1

while(l<r):

threesum=a+nums[l]+nums[r]

if(threesum>0):

r-=1

elif(threesum<0):

l+=1

else:

res.append([a, nums[l] , nums[r]])

l+=1

while(nums[l]==nums[l-1] and l<r):

l+=1

return res

array=[3,4,5,6,3,2,0,2,-2,-1]

print(three\_sum(array))

Que5-search in rotated sort array

link=<https://leetcode.com/problems/search-in-rotated-sorted-array/description/>

soln:

def search\_element(array,target):

left , right=0 , len(array)-1

while(left<=right):

mid=(left+right)//2

if(array[mid]==target):

return mid

if(array[left]<array[mid]):

if(array[left]<=target<array[mid]):

right=mid-1

else:

left=mid+1

else:

if(array[mid]<target<array[right]):

left=mid+1

else:

right=mid-1

nums = [4,5,6,7,0,1,2]

print(search\_element(nums, 0))