Daily Work Practice: Date-8/8/2023

Problem:Search In Roatated Sorted Array

```
package com.ishwarchavan;

public class RotatedSortedArrays {

	public static void main(String[] args) {		//main program started
		int [] nums = {4,5,6,7,0,1,2};		//assing value to the nums variable
		int target = 0;
		int index = search(nums,target);	//calling search function
		System.out.println(index);

	}
	    public static int search(int[]nums, int target) {		//passing parameter
		if(nums.length == 0 ) {				//if this true then return -1
			return -1;
		}
		int start =0;			//declarin and initializing value to the varibles
		int end = nums.length-1;

		while(start <= end) {		//while condition to stop the iteration
			int mid = (start + end)/2;
			if(nums[mid]== target) {		//if true then return mid value
				return mid;

			}else if (nums[start]<= nums [mid]) {//if else the condition then executed this statement

				if(target >=nums[start] && target <= nums[mid]) {

//if satisfied the condition then retun mid-1 value

					end= mid-1;
				}else {//if false the condition then executed these condition
					start =mid +1;

				}
			}else {
				if(target >= nums[mid] && target <= nums [end]) { //If satisfied this condition then executed this statment
					start = mid+1;
				}else {			//otherwise execute this statment
					end=mid-1;
				}
			}
			}
			return -1;  //if not the the number in the array then return -1
		}
		}
```

Problem: Find First and Last Position In Sorted Array

```
package com.ishwarchavan;

public class FirstLastPositionOfSortedArray {
 public static void main(String[] args) {		//Main program started
	int arr[]=  {5,7,7,8,8,10};	//initializing and declaring the value to varibles
	int target= 8;

	int firstPosition= -1;			//creating two variables and storing -1
	int lastPosition = -1;

	for(int i=0; i<arr.length; i++) {			//loop iterating upto arr.lenght
```

```
            if(arr[i] == target && firstPosition ==-1) { //if this condition is true
then executes below statement

                  firstPosition =i;
             }
              if(arr[i]== target && firstPosition != -1) {     //if this condition is
true then executes below statement


                   lastPosition =i;
              }
             }
              System.out.println("First Position "+ firstPosition);
              System.out.println("Last Position "+ lastPosition);
      }
 }
```