School of Computer Science and Engineering
Experiment List for Programming Ability and Logic Building - 1

Proposed Date	Lecture	Experiment	In Class / Take Home
Week : (19/01/26 to 25/01/26)	1	You are given an array of integers **arr[]**. You have to **reverse** the given array. **Note:** Modify the array in place. **Examples:** **Input:** arr = [1, 4, 3, 2, 6, 5] **Output:** [5, 6, 2, 3, 4, 1] **Explanation:** The elements of the array are [1, 4, 3, 2, 6, 5]. After reversing the array, the first element goes to the last position, the second element goes to the second last position and so on. Hence, the answer is [5, 6, 2, 3, 4, 1]. Link : https://www.geeksforgeeks.org/problems/reverse-an-array/1	In Class
	1	Given an array **arr[]**. Your task is to find the **minimum** and **maximum** elements in the array. **Examples:** **Input:** arr[] = [1, 4, 3, 5, 8, 6] **Output:** [1, 8] **Explanation:** minimum and maximum elements of array are 1 and 8. Link: https://www.geeksforgeeks.org/problems/find-minimum-and-maximum-element-in-an-array4428/1	In Class
	1	Given an integer array **arr[]** and an integer **k**, your task is to find and return the **kth smallest** element in the given array. **Note:** The kth smallest element is determined based on the sorted order of the array. **Examples :** **Input:** arr[] = [10, 5, 4, 3, 48, 6, 2, 33, 53, 10], k = 4 **Output:** 5 **Explanation:** 4th smallest element in the given array is 5. Link: practice.geeksforgeeks.org/problems/kth-smallest-element/0	Take Home
	1	You are given two arrays **a[]** and **b[]**, return the **Union** of both the arrays in any order. The **Union** of two arrays is a collection of all **distinct elements** present in either of the arrays. If an element appears more than once in one or both arrays, it should be included **only once** in the result. **Note:** Elements of **a[]** and **b[]** are not necessarily distinct. Note that, You can return the Union in any order but the driver code will print the result in **sorted order** only. **Examples:** **Input:** a[] = [1, 2, 3, 2, 1], b[] = [3, 2, 2, 3, 3, 2] **Output:** [1, 2, 3] **Explanation:** Union set of both the arrays will be 1, 2 and 3. Link: https://www.geeksforgeeks.org/problems/union-of-two-arrays3538/1	Take Home
	1	Given an array **arr[].** The task is to find the largest element and return it. **Examples:** **Input:** arr[] = [1, 8, 7, 56, 90]	Take Home

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		Output: 90 **Explanation:** The largest element of the given array is 90. Link: https://www.geeksforgeeks.org/problems/largest-element-in-array4009/0?utm_source=youtube&utm_medium=collab_striver_ytdescription&utm_campaign=largest-element-in-array	
Week : (19/01/26 to 25/01/26)	2	Given an array **arr**, rotate the array by one position in clockwise direction. **Examples:** **Input:** arr[] = [1, 2, 3, 4, 5] **Output:** [5, 1, 2, 3, 4] **Explanation**: If we rotate arr by one position in clockwise 5 come to the front and remaining those are shifted to the end. Link: https://www.geeksforgeeks.org/problems/cyclically-rotate-an-array-by-one2614/1	In Class
	2	You are given an integer array **arr[].** You need to find the **maximum** sum of a subarray (containing at least one element) in the array **arr[]**. **Note :** A **subarray** is a continuous part of an array. **Examples:** **Input:** arr[] = [2, 3, -8, 7, -1, 2, 3] **Output:** 11 **Explanation:** The subarray [7, -1, 2, 3] has the largest sum 11. Link: practice.geeksforgeeks.org/problems/kadanes-algorithm/0	In Class
	2	Given a sorted array of distinct integers and a target value, return the index if the target is found. If not, return the index where it would be if it were inserted in order. You must write an algorithm with O(log n) runtime complexity. **Example 1:** **Input:** nums = [1,3,5,6], target = 5 **Output:** 2 Link: https://leetcode.com/problems/search-insert-position/description/?envType=problem-list-v2&envId=array	Take Home
	2	Given an array of integers nums and an integer target, return *indices of the two numbers such that they add up to target*. You may assume that each input would have ***exactly* one solution**, and you may not use the *same* element twice. You can return the answer in any order. **Example 1:** **Input:** nums = [2,7,11,15], target = 9 **Output:** [0,1] **Explanation:** Because nums[0] + nums[1] == 9, we return [0, 1]. Link: https://leetcode.com/problems/two-sum/description/?envType=problem-list-v2&envId=array	Take Home

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	2	You are given an array **arr[]** of non-negative numbers. Each number tells you the **maximum number of steps** you can jump forward from that position. For example: • If **arr[i] = 3**, you can jump to index **i + 1**, **i + 2**, or **i + 3** from position **i**. • If **arr[i] = 0**, you **cannot jump forward** from that position. Your task is to find the **minimum number of jumps** needed to move from the **first** position in the array to the **last** position. **Note:** Return **-1** if you can't reach the end of the array. **Examples :** **Input:** arr[] = [1, 3, 5, 8, 9, 2, 6, 7, 6, 8, 9] **Output:** 3 **Explanation:** First jump from 1st element to 2nd element with value 3. From here we jump to 5th element with value 9, and from here we will jump to the last. Link: https://www.geeksforgeeks.org/problems/minimum-number-of-jumps-1587115620/1	Take Home