

Semester- III
Practical List

Practical List: 01	
Problem Statements: (Instructions: It is compulsory to create user defined functions for each of the functionality asked in problem statements.)	
1.	Write a program to enter a two digit number and display it in word.
2.	Write a program to input a statement (string) and do the following using menu driven program: 1. Count the length of the string 2. Covert to upper case 3. Covert to lower case 4. Convert to proper case 5. Convert to sentence case 6. Count number of words 7. Count the number of alphabet 8. Count the number of numerals 9. Count the number of other characters (other than alphanumeric)
3.	Write a program to create an array of N real numbers. Count the positive, negative and zero values from an array and display it with appropriate message.
4.	Write a program to find second highest value from the array of numbers.
5.	Write a program to input string and count the occurrence of given character in it. (Do not use library function). i/p: String: Sachin Tendulkar character: a o/p: 2
6.	Write a program to display occurance of each character in input string. For Example- Input- My name is Sachin Mane Output – a3c1e2h1i2m3n3s2y1
7.	Write a program to create an array of numbers. Do the following using menu driven program: Display sum and average of array elements. 1. Add a number. 2. Delete number 3. Find maximum number 4. Find minimum number 5. Calculate sum of number 6. Calculate average of number 7. Display array

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8.	Write a program to insert string and display in following pattern. Input String is: HELLO <div style="text-align: center;"> H H E H E L H E L L H E L L O </div>
9.	Write a program using an array to find the largest and smallest elements from the given n elements.
10.	Write a program to input two 3X3 matrix. Perform matrix addition and display result.
11.	Write a program to input 2 matrices and display the multiplication matrix of both.
12.	Write a program to create an array of string. Also input two strings say str1 and str2. Search str1 from the array and replace it with str2 at all the places in the array. Display array before and after the operation.

Objective(s)	To vibrant the concept of Function and Array.
Pre-requisites	Basic of Object-Oriented Concepts.
Duration for Completion	8 Hours
PSO(s) to be achieved	PSO3: Student will be able to devise and conduct experiments and provide well informed conclusions using recent tools, technologies and industrial trends.
PO(s) to be achieved	PO2: Problem Analysis and Solution: Identify, Analyse and provide the solution for emerging real-world problems with the help of theoretical and practical understanding of tools and technologies.
CO(s) to be achieved	CO1: Identify essential Data Structures and analyse the complexity of algorithms and identify the optimized algorithm. CO2: Recognize problem properties where arrays, stacks, queues, and deque are appropriate data structures.
Solution must contain	Source Code with comments and Output Screen Shot
Nature of submission	Handwritten on A4 size blank papers
References for solving the problem	Textbook: Classic Data Structures, Debasis Samanta, PHI.
Post Laboratory questions	Write a function in C++, which accepts an integer array and its size as parameters and rearranges the array in reverse. For example: <div style="text-align: center;"> If an array of nine elements initially contains the elements as... 4, 2, 5, 6, 7, 8, 12, 10 then the function should rearrange the array as 10, 12, 8, 7, 6, 1, 5, 2, 4 </div>