

ASANSOL ENGINEERING COLLEGE

PROGRAMMING FOR PROBLEM SOLVING LAB

ES-CS291

Chapter Name	Programs to be Performed	Performance
A	<p>1. WAP in c to print the following information in the following way: Asansol Engineering College IT Dept.</p> <p>2. WAP in C to print “INDIAN” in the following way: I IN IND INDI INDIA INDIAN</p> <p>3. WAP in C to accept two integer numbers with proper message. Perform different operations using the following operators : +, -, *, / , % Expected Output: First Number = 15 Second Number = 4 Summation = 19 Subtraction = 11 Multiplication = 60 Division = 3 Remainder = 3 (<i>Note: Assuming 15 & 4 have been taken as input</i>)</p> <p>4. Write a C program to print your name, date of birth and mobile number. Expected Output: Name : Dennis MacAlistair Ritchie DOB : September 9, 1941 Mobile : 99-9999999999</p> <p>5. Write a C program to print a block F using hash (#), where the F has a height of six characters and width of five and four characters. And also to print a big 'C'. Expected Output:</p> <pre> ##### # # ##### # # # ##### ## ## # # # # ## ## ##### </pre> <p>6. Write a C program to convert specified days into years, weeks and days. (Note: Ignore leap year.) Test Data : Number of days : 1329 Expected Output : Years: 3 Weeks: 33 Days: 3</p>	

B

1. WAP to take the total marks of a particular student and provide the Grade according to the following table

Total Marks	Grade
Less than 40	Fail
From 40 to 49	D
From 50 to 59	C
From 60 to 69	B
From 70 to 79	A
From 80 to 89	E
From 90 to 100	O

2. WAP to take the Sale amount as input and provide the commission according to the following table

Sale Amount	Commission
Less than 500	Rs. 35
From 500 to 2000	10% of Sale Amount
From 2001 to 5000	15% of Sale Amount
More than 5000	20% of Sale Amount

3. Take the three sides of a Triangle and check whether the triangle is equilateral, isosceles or scalene. Provide necessary messages.
4. Write a C program to read the coordinates(x, y) (in Cartesian system) and find the quadrant to which it belongs (Quadrant -I, Quadrant -II, Quadrant -III, Quadrant -IV).
Note: A Cartesian coordinate system is a coordinate system that specifies each point uniquely in a plane by a pair of numerical coordinates.
These are often numbered from 1st to 4th and denoted by Roman numerals: I (where the signs of the (x,y) coordinates are I(+,+), II (-,+), III (-,-), and IV (+,-). **Test Data :**

Input the Coordinate(x,y): x: 25 y: 15 Expected Output: Quadrant-I(+,+)	Input the Coordinate(x,y): x: 25 y: -15 Expected Output: Quadrant-IV(+,-)
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5. Write a program that reads two numbers and divide the first number by second number. If the division not possible print "Division not possible".

Test Data :

Input two numbers: x: 25 y: 5 Expected Output: 5.0	Input two numbers: x: 21 y: 5 Expected Output: Division not possible
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6. Write a C program that accepts a real number x and prints out the corresponding value of $\sin(1/x)$ using 4-decimal places.

Test Data:

Input value of x: .6235 Value of $\sin(1/x)$ is 0.9995	Input value of x: 0 Value of $\sin(1/x)$ is "Not Possible"
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7. Write a C program to remove any negative sign in front of a number.
Input a value (negative):

Expected Output:
Original value = -253
Absolute value = 253

B

8. Write a program in C to calculate and print the Electricity bill of a given customer. The customer id., name and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer. The charge are as follow :

Unit	Charge/unit
upto 199	@1.20
200 and above but less than 400	@1.50
400 and above but less than 600	@1.80
600 and above	@2.00

If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/-

Test Data :

1001

Raman Chatterjee

800

Expected Output :

Customer IDNO :1001

Customer Name : Raman Chatterjee

unit Consumed :800

Amount Charges @Rs. 2.00 per unit : 1600.00

Surcharge Amount : 240.00

Net Amount Paid By the Customer : 1840.00

9. Write a C program to read temperature in centigrade and display a suitable message according to temperature state below :

Temp < 0 then **Freezing weather**

Temp 0-10 then **Very Cold weather**

Temp 10-20 then **Cold weather**

Temp 20-30 then **Normal in Temp**

Temp 30-40 then **Its Hot**

Temp >=40 then **Its Very Hot**

Test Data :

42

Expected Output :

Its very hot.

10. Write a C program to check whether a triangle can be formed by the given value for the angles.

Test Data :

40 55 65

Expected Output :

The triangle is not valid.

11. Write a C program to check whether a number is ODD or EVEN.

Test Data :

25

Expected Output :

ODD

12. Write a program in C to read any Month Number in integer and display Month name in the word.

Test Data :

4

Expected Output :

April

C

1. Write a program in C to take 10 numbers as input and display how many of them are Odd number and Even number.

Test Data :
10 11 75 89 56 44 22 77 55 65
Expected Output :
Total number of "ODD" numbers: 6

Test Data :
10 20 30 41 50 51 60 6 8 10
Expected Output :
Total number of "ODD" numbers: 2

2. Write a program in C to display n terms of natural number and their sum and average.

Test Data :
7
Expected Output :
The first 7 natural number is :
1 2 3 4 5 6 7
The Sum of Natural Number upto 7 terms : 28
The Average of Natural Number upto 7 terms : 4.000

3. Write a program in C to take a number and check whether it is Prime or not.

Enter a number: 25
Expected Output :
25 is NOT PRIME

Enter a number: 11
Expected Output :
11 is NOT PRIME

4. Write a program in C to generate all the prime numbers from M to N.(M<N)

Test Data :
Enter M and N: 10 23
Expected Output :
[11] [13] [17] [19] [23].

5. Write a program in C to display the multiplication table vertically from 1 to n.

Test Data :
Input upto the table number starting from 1 : 6
Expected Output :
Multiplication table from 1 to 6
1x1 = 1, 2x1 = 2, 3x1 = 3, 4x1 = 4, 5x1 = 5, 6x1 = 6
.....
1x10 = 10, 2x10 = 20, 3x10 = 30, 4x10 = 40, 5x10 = 50, 6x10 = 60

6. Write a program in C to take a number & find its factorial.

Test Data :
Enter a number: 5
Expected Output :
Factorial of 5 is =120

7. Write a program in C to take a number & find all the factors of it.

Test Data :
Enter a number: 16
Expected Output :
Factors of 16 are =[1][2][4][8][16]

C	<p>8. Write a c program to check whether a given number is a perfect number or not.</p> <table><tr><td>Input the number : 56 Expected Output : The positive divisor : 1 2 4 7 8 14 28 The sum of the divisor is : 64 So, the number is not perfect.</td><td>Input the number : 6 Expected Output : The positive divisor : 1 2 3 The sum of the divisor is : 6 So, the number is perfect.</td></tr></table>	Input the number : 56 Expected Output : The positive divisor : 1 2 4 7 8 14 28 The sum of the divisor is : 64 So, the number is not perfect.	Input the number : 6 Expected Output : The positive divisor : 1 2 3 The sum of the divisor is : 6 So, the number is perfect.	
	Input the number : 56 Expected Output : The positive divisor : 1 2 4 7 8 14 28 The sum of the divisor is : 64 So, the number is not perfect.	Input the number : 6 Expected Output : The positive divisor : 1 2 3 The sum of the divisor is : 6 So, the number is perfect.		
	<p>9. Write a program in C to take a number & find all its PRIME FACTORS.</p> <table><tr><td>Test Data : Enter a number: 36 Expected Output : All Factors of 36 are =[2] [3][4] [6][9][12][18] Prime Factors of 36 are =[2] [3]</td></tr></table>	Test Data : Enter a number: 36 Expected Output : All Factors of 36 are =[2] [3][4] [6][9][12][18] Prime Factors of 36 are =[2] [3]		
	Test Data : Enter a number: 36 Expected Output : All Factors of 36 are =[2] [3][4] [6][9][12][18] Prime Factors of 36 are =[2] [3]			
	<p>10. Write a program in C to display the first n terms of Fibonacci series. Fibonacci series is : 0 1 2 3 5 8 13</p> <table><tr><td>Test Data : Input number of terms to display : 10 Expected Output : Here is the Fibonacci series upto to 10 terms : 0 1 1 2 3 5 8 13 21 34</td></tr></table>	Test Data : Input number of terms to display : 10 Expected Output : Here is the Fibonacci series upto to 10 terms : 0 1 1 2 3 5 8 13 21 34		
Test Data : Input number of terms to display : 10 Expected Output : Here is the Fibonacci series upto to 10 terms : 0 1 1 2 3 5 8 13 21 34				
<p>11. Write a C program to find HCF (Highest Common Factor) of two numbers.</p> <table><tr><td>Test Data : Input 1st number for HCF: 24 Input 2nd number for HCF: 28 Expected Output : HCF of 24 and 28 is : 4</td></tr></table>	Test Data : Input 1st number for HCF: 24 Input 2nd number for HCF: 28 Expected Output : HCF of 24 and 28 is : 4			
Test Data : Input 1st number for HCF: 24 Input 2nd number for HCF: 28 Expected Output : HCF of 24 and 28 is : 4				
<p>12. Write a program in C to Check Whether a Number can be expressed as Sum of Two Prime Numbers.</p> <table><tr><td>Test Data : Input a positive integer: 16 Expected Output : 16 = 3 + 13 16 = 5 + 11</td></tr></table>	Test Data : Input a positive integer: 16 Expected Output : 16 = 3 + 13 16 = 5 + 11			
Test Data : Input a positive integer: 16 Expected Output : 16 = 3 + 13 16 = 5 + 11				
D	<p>1. Write a program in C to display the n terms of harmonic series and their sum. 1 + 1/2 + 1/3 + 1/4 + 1/5 ... 1/n terms</p> <table><tr><td>Test Data : Input the number of terms : 5 Expected Output : 1/1 + 1/2 + 1/3 + 1/4 + 1/5 + Sum of Series upto 5 terms : 2.283334</td></tr></table>	Test Data : Input the number of terms : 5 Expected Output : 1/1 + 1/2 + 1/3 + 1/4 + 1/5 + Sum of Series upto 5 terms : 2.283334		
	Test Data : Input the number of terms : 5 Expected Output : 1/1 + 1/2 + 1/3 + 1/4 + 1/5 + Sum of Series upto 5 terms : 2.283334			
<p>2. Write a program in C to display the sum of the series [9 + 99 + 999 + 9999...].</p> <table><tr><td>Test Data : Input the number or terms :5 Expected Output : 9 + 99 + 999 + 9999 + 99999 Sum of Series upto 5 terms : 111105</td></tr></table>	Test Data : Input the number or terms :5 Expected Output : 9 + 99 + 999 + 9999 + 99999 Sum of Series upto 5 terms : 111105			
Test Data : Input the number or terms :5 Expected Output : 9 + 99 + 999 + 9999 + 99999 Sum of Series upto 5 terms : 111105				

D

3. Write a program in C to accept an Integer number as input and perform the following operations on that integer number
- Print the total number of digits present in that inputted number
 - Print summation of all the digits present in that inputted number
 - Reverse the inputted number and print it
 - Check whether the inputted number is a Palindrome number or not.
 - Check whether the inputted number is an Armstrong number or not.

Enter a number : 153	Enter a number : 121
Expected Output :	Expected Output :
Total No. digits : 3	Total No. digits : 3
Sum of all digits : 9	Sum of all digits : 4
Reverse of 153 is : 351	Reverse of 121 is : 121
153 is not a Palindrome Number	121 is a Palindrome Number
153 is an Armstrong Number	121 is not an Armstrong Number

4. Write a program in C to find the sum of the series [$1 - X^2/2! + X^4/4! - \dots$].

Test Data :
 Input the Value of x :2
 Input the number of terms : 5
Expected Output :
 Number of terms = 5
 value of x = 2.000000
 the sum = -0.415873

5. Write a program in C to display the n terms of harmonic series and their sum.
 [$x - x^3 + x^5 + \dots$ nth term].

Test Data :
 Input the value of x :2
 Input number of terms : 5
Expected Output :
 The sum= 410

6. Write a C program to find the Armstrong number for a given range of number.

Test Data :
 Input starting number of range: 1
 Input ending number of range : 1000
Expected Output :
 Armstrong numbers in given range are: 1 153 370 371 407

7. Write a program in C to display all Prime Fibonacci numbers within a Fibonacci series of nth Term.

Test Data :
 Input number of terms to display : 10
Expected Output :
 Here is the Fibonacci series upto to 10 terms :
 0 1 1 2 3 5 8 13 21 34
 The Prime Fibonacci Numbers are:
 [2] [3] [5] [13]

8. Write a c program to find out the sum of an A.P. series.

Test Data :
 Input the starting number of the A.P. series: 1
 Input the number of items for the A.P. series: 10
 Input the common difference of A.P. series: 4
Expected Output :
 The Sum of the A.P. series are :
 1 + 5 + 9 + 13 + 17 + 21 + 25 + 29 + 33 + 37 = 190

D	<p>9. Write a program in C to display the n terms of series and their sum. [1-12+123-1234+12345 nth term].</p> <div data-bbox="373 255 1299 407"> <p>Test Data : Enter the term number: 5 Expected Output : The series is= 1-12+123-1234+12345 The sum= 11223</p> </div> <p>10. Write a program in C to display the n terms of the series and their sum. [1+2+3+5+7+11+13+17+19..... nth term].</p> <div data-bbox="373 497 1299 649"> <p>Test Data : Enter the term number: 5 Expected Output : The series is= 1+2+3+5+7 The sum= 18</p> </div>	
E	<div data-bbox="325 656 699 846"> <p>1. Draw the triangle up to nth term</p> <pre> 1 1 2 1 2 3 1 2 3 4 1 2 3 4 5 </pre> </div> <div data-bbox="325 913 699 1104"> <p>3. Draw the triangle up to nth term</p> <pre> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 </pre> </div> <div data-bbox="309 1149 708 1350"> <p>5. Draw the triangle up to nth term</p> <pre> 1 1 2 1 1 2 3 2 1 1 2 3 4 3 2 1 </pre> </div> <div data-bbox="325 1429 718 1608"> <p>7. Draw the triangle up to nth term:</p> <pre> * ** *** **** </pre> </div> <div data-bbox="309 1619 708 1809"> <p>9. Draw the triangle up to nth term</p> <pre> 4444 333 22 1 </pre> </div> <div data-bbox="858 656 1232 846"> <p>2. Draw the triangle up to nth term</p> <pre> 1 1 0 1 0 1 1 0 1 0 1 0 1 0 1 </pre> </div> <div data-bbox="842 913 1241 1104"> <p>4. Draw the triangle up to nth term</p> <pre> 1 1 2 3 1 2 3 4 5 1 2 3 4 5 6 7 </pre> </div> <div data-bbox="842 1149 1241 1339"> <p>6. Draw the triangle up to nth term</p> <pre> * * * * * * * </pre> </div> <div data-bbox="858 1384 1251 1552"> <p>8. Draw the triangle up to nth term</p> <pre> 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 </pre> </div> <div data-bbox="858 1653 1244 1843"> <p>10. Draw the triangle up to nth term</p> <pre> 1 22 333 4444 </pre> </div>	

E	<p>11. Write a program in C to print the Floyd's Triangle.</p> <pre>1 01 101 0101 10101</pre> <p>13. Write a program in C to print the Pascal's Triangle.</p> <pre> 1 1 1 1 2 1 1 3 3 1 1 4 6 4 1</pre>	<p>12. Draw the pattern</p> <pre> * *** ***** ******** ********** ***** ***** ***** ***** *** *</pre> <p>14. Print the following Patteren</p> <pre> A A B A A B C B A A B C D C B A</pre>
F	<p>1. Write a program in C using a single dimension Array and perform the following operations</p> <ul style="list-style-type: none">a. Print the maximum and minimum number of the arrayb. Count how many numbers are Even numbers of the arrayc. Print all the prime numbers, present in that array <div><p>Test Data : Enter the total number of data : 5 Enter the data: 5 2 44 6 33</p><p>Expected Output : Maximum number : 44 Minimum number : 2 Total No.of even number : 3 Prime numbers are : [5] [2]</p></div> <p>2. Write a program in C using a single dimension Array and Sort that array in ascending order.</p> <div><p>Test Data : Enter the total number of data : 5 Enter the data: 5 2 44 6 33</p><p>Expected Output : Sorted data in ascending order : 2 5 6 33 44</p></div> <p>3. Write a program in C to print all unique elements in an array.</p> <div><p>Test Data : Input the number of elements to be stored in the array :4 Input 4 elements in the array : element - 0 : 1 element - 1 : 5 element - 2 : 1 element - 3 : 45</p><p>Expected Output : The unique elements found in the array are : [5] [45]</p></div>	

F

4. Write a program in C to count frequency of each element in an array.

Test Data :

Input the number of elements to be stored in the array :4

Input 3 elements in the array :

element - 0 : 1

element - 1 : 5

element - 2 : 1

element - 3 : 45

Expected Output :

The frequency of all elements of an array :

1 occurs 2 times

5 occurs 1 times

3 occurs 1 times

5. Write a program in C to count a total number of duplicate elements in an array.

Test Data :

Input the number of elements to be stored in the array :4

Input 4 elements in the array :

element - 0 : 1

element - 1 : 5

element - 2 : 1

element - 3 : 45

Expected Output :

Total number of duplicate elements found in the array is : 1

6. Write a program in C to separate odd and even integers in separate arrays.

Test Data :

Input the number of elements to be stored in the array :5

Input 5 elements in the array :

element - 0 : 25

element - 1 : 47

element - 2 : 42

element - 3 : 56

element - 4 : 32

Expected Output :

The Even elements of EVEN array are :

42 56 32

The Odd elements of ODD array are :

25 47

7. Write a program in C to insert New value in the array (sorted list).

Test Data :

Input the size of array : 3

Input 3 elements in the array in ascending order:

element - 0 : 5

element - 1 : 7

element - 2 : 9

Input the value to be inserted : 8

Expected Output :

The existing array list is :

5 7 9

After Inserting NEW element the array list is :

5 7 8 9

F	<p>8. Write a program in C to delete an element at desired position from an array.</p> <div data-bbox="373 226 1324 555" style="border: 1px solid black; padding: 5px;"> <p>Test Data : Input the size of array : 5 Input 5 elements in the array in ascending order: element - 0 : 11 element - 1 : 20 element - 2 : 32 element - 3 : 46 element - 4 : 53 Input the position where to delete: 3 Expected Output : The new list is : 11 20 46 53</p> </div> <p>9. Write a program in C and take two single dimensional arrays and make a third array to store the result of their summation. Print the arrays in the following way Expected Output :</p> <pre> Array 1 Array 2 Array 3 10 + 12 = 22 50 + 15 = 65 33 + 17 = 50 12 + 4 = 16 </pre> <p>10. Write a program in C and take two single dimensional sorted arrays. Merge these two sorted arrays and make a resultant array which will be also sorted.</p> <div data-bbox="373 947 1324 1364" style="border: 1px solid black; padding: 5px;"> <p>Test Data : Input the size of First array : 5 Input 5 elements in the First array in ascending order: 10 22 30 45 59 Input the size of Second array : 7 Input 5 elements in the Second array in ascending order: 5 12 18 20 35 42 55 Expected Output : Elements in the First array: 10 22 30 45 59 Elements in the Second array: 5 12 18 20 35 42 55 Elements in the Merged array: 5 10 12 18 20 22 30 35 42 45 55 59</p> </div>	
G	<p>1. Write a program in C for a 2D array of size 3x3 and print the matrix.</p> <div data-bbox="373 1456 1324 1930" style="border: 1px solid black; padding: 5px;"> <p>Test Data : Input elements in the matrix : element - [0],[0] : 1 element - [0],[1] : 2 element - [0],[2] : 3 element - [1],[0] : 4 element - [1],[1] : 5 element - [1],[2] : 6 element - [2],[0] : 7 element - [2],[1] : 8 element - [2],[2] : 9 Expected Output : The matrix is : 1 2 3 4 5 6 7 8 9</p> </div>	

	<p>2. Write a program in C for addition of two Matrices of same size.</p> <div data-bbox="371 197 1324 853"> <p>Test Data : Input the size of the square matrix (less than 5): 2 Input elements in the first matrix : element - [0],[0] : 1 element - [0],[1] : 2 element - [1],[0] : 3 element - [1],[1] : 4 Input elements in the second matrix : element - [0],[0] : 5 element - [0],[1] : 6 element - [1],[0] : 7 element - [1],[1] : 8 Expected Output : The First matrix is : 1 2 3 4 The Second matrix is : 5 6 7 8 The Addition of two matrix is : 6 8 10 12</p> </div> <p>3. Write a program in C to find transpose of a given matrix.</p> <div data-bbox="371 913 1324 1420"> <p>Test Data : Input the rows and columns of the matrix : 2 2 Input elements in the first matrix : element - [0],[0] : 1 element - [0],[1] : 2 element - [1],[0] : 3 element - [1],[1] : 4 Expected Output : The Original matrix is : 1 2 3 4 The transpose of a matrix is : 1 3 2 4</p> </div> <p>4. Write a program in C to find sum of Right diagonal, Left diagonal elements of a matrix.</p> <div data-bbox="371 1458 1324 1877"> <p>Test Data : Input the size of the square matrix : 2 Input elements in the first matrix : element - [0],[0] : 1 element - [0],[1] : 9 element - [1],[0] : 3 element - [1],[1] : 4 Expected Output : The matrix is : 1 9 3 4 Addition of the Right Diagonal elements is :5 Addition of the Left Diagonal elements is :12</p> </div>	
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G	<p>5. Write a program in C to find sum of rows and columns of a Matrix.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Test Data : Input the size of the square matrix : 2 Input elements in the first matrix : element - [0],[0] : 5 element - [0],[1] : 6 element - [1],[0] : 7 element - [1],[1] : 8 Expected Output : The First matrix is : The matrix is : 5 6 7 8 The sum or rows and columns of the matrix is : 5 6 = 11 7 8 = 15 <hr style="width: 20px; margin-left: 0;"/> 12 14</p> </div> <p>6. Write a program in C to take input in two matrices. Multiply these two matrices and store the result in a third matrix. Print all the matrices in the matrix format. You will have to check whether multiplication is possible or not.</p> <p>7. WAP to take one integer number and convert that number to its equivalent binary number and octal number.</p> <p>8. Write a program in C to rotate an array by N positions.</p> <div style="border: 1px solid black; padding: 5px;"> <p>Expected Output : The given array is : 0 3 6 9 12 14 18 20 22 25 27 From 4th position the values of the array are : 12 14 18 20 22 25 27 Before 4th position the values of the array are : 0 3 6 9 After rotating from 4th position the array is: 12 14 18 20 22 25 27 0 3 6 9</p> </div>	
H	<ol style="list-style-type: none"> Write a menu driven program to implement a Basic Calculator and perform the following operations. (You will have to use the functions with argument passing mechanism) <ol style="list-style-type: none"> Summation Subtraction Multiplication Division Write a menu driven program using functions with argument passing mechanism to perform the following operations on a particular number <ol style="list-style-type: none"> Print all the factors of that number Print all the prime factors of that number Print the factorial of that number Check whether that number is Prime or Not. Check whether that number is a Fibonacci number or not. Count the number of digits present in that Number Check that number is a armstrong number or not Check that number is a perfect number or not Write a program in C to take two arrays as input. Pass those arrays in a function, named as isEqual() and check whether those arrays are equal or not. Write a program in C to take one Matrix of size N X N as input. Pass that Matrix in a function, named as makeDiagonalZero(). This function will assign 0 to all diagonal elements of the matrix. Print the Original & modified Matrix. Write a program in C to take one Matrix of size M X N as input and Sparse Percentage value as input. Pass that Matrix in a function, named as isSparseMatrix(). This function will check whether it is a sparse matrix or not depending on Sparse Percentage value. If that matrix holds more percentage of ZERO values than Sparse Percentage value then that matrix is known as sparse matrix. Print the Original with Percentage of ZERO value. Write a program in C to take an array as input. Pass that array in a function, named as doSort(). This function will do a sort the data in decending order .Print the Original & sorted Array. 	

I	<div><div>1. WAP to take one String as input and perform the following operations</div><div><div>a. How many vowels are present</div><div>b. How many consonant are present</div><div>c. How many digits are present</div><div>d. How many words are present</div></div></div> <div><div>2. Write a program in C to find the length of a string without using library function.</div><div><div>Test Data : Input the string : ASANSOL ENGINEERING COLLEGE</div><div>Expected Output : Length of the string is : 27</div></div></div> <div><div>3. Write a program in C to compare two strings without using string library functions.</div><div><div>Test Data : Input the 1st string : This is first string Input the 2nd string : This is first string Expected Output : The length of both strings are equal and also both strings are equal.</div></div></div> <div><div>4. Write a program in C to reverse of a string without using library function.</div><div><div>Test Data : Input the string : TEACHER</div><div>Expected Output : Reversed of the string is :REHCAET</div></div></div> <div><div>5. Write a program in C to encode & decode a Message. Encode() method will do the job of encoding & Decode() method / function will do the decoding job. In case of encoding every alphabet will be replaced by next to next alphabet. i.e A will be encoded to C, B will be encoded by D and Z will be encoded as B. Docding process is just opposite operation of encoding process. Print the original Message/String , Encodded message and Decodded message.</div><div><div>Test Data : Input the string : Zig-zag</div><div>Expected Output : Original string : Zig-zag Encodded string : Bki-bci Decoddedl string : Zig-zag</div></div></div> <div><div>6. WAP to take one String as input and change the case of the string. (Lower case will be upper case and Upper case will be lower case).</div><div><div>Test Data : Input a String : i lovE t20 Match.</div><div>Expected Output : I LOVe T20 mATCH</div></div></div> <div><div>7. Write a program in C to check whether two given strings are an anagram.</div><div><div>Test Data : Input the first String : spare Input the second String : pears</div><div>Expected Output : spare and pears are Anagram.</div></div></div> <div><div>8. WAP to take one string as input and check whether that string is a palindrome or not.</div><div><div>Test Data : Input a string: MADAM</div><div>Expected Output : MADAM is Palindrome</div></div><div><div>Test Data : Input a string: APPLE</div><div>Expected Output : APPLE is NOT Palindrome</div></div></div>	
I	<div><div>Test Data : Input a string: MADAM</div><div>Expected Output : MADAM is Palindrome</div></div> <div><div>Test Data : Input a string: APPLE</div><div>Expected Output : APPLE is NOT Palindrome</div></div>	

	<p>9. Write a program in C to extract a substring from a given string.</p> <div> <p>Test Data : Input the string : this is test string Input the position to start extraction :9 Input the length of substring :4 Expected Output : The substring retrieve from the string is : " test "</p> </div> <p>10. Write a C program to check whether a given substring is present in the given string.</p> <div> <p>Test Data : Input the string : This is a test string. Input the substring to be search : search Expected Output : The substring is not exists in the string.</p> </div>	
J	<p>1. Write a c program to store and access the “id, name and percentage” for one student. Use the concept of Structure. Assign 25, Babai, 89.67 in id, name and percentage respectively. Print all the information in separate line.</p> <p>2. Write a program in C to show the concept of passing structure in function and returning structure from function program in C to store the “id, name and percentage” for one student. Pass the structure variable in a function, called as Input() and take the necessary inputs. Then pass that structure variable in Output() function and display all the necessary information.</p> <p>3. Write a program in C which will have a structure named distance with two integer members feet and inches. Define a function named addDistance() that will take two structure variables and print sum (addition) of their elements.</p> <div> Enter first distance in feet & inches: 10 8 Enter second distance in feet & inches: 5 7 Total distance- Feet: 16, Inches: 3 </div> <p>4. Write a menu driven program to build a student database of 20 students using structure that will include name, roll_no, subject1, subject2, average_marks, and total_marks as fields. Do the following operations</p> <ol style="list-style-type: none"> Searching a particular student using roll number Searching a particular student using name Print the number students who got above 80 Sort the data with respect to name in ascending order using either bubble or selection sort. <p>5. Write a C program to demonstrate example of Nested Structure. Design a structure named as Student (members are Name, Roll) . Create a structure DateOfBirth (Members are: DD, MM, YYYY) which will be declared inside the structure student.</p> <div> Enter name: Ratan Naval Tata Enter roll number: 10001 Enter Date of Birth [DD MM YYYY] format: 28 12 1937 Name : Ratan Naval Tata RollNo : 10001 Date of birth : 28/12/1937 </div> <p>6. Write a program in C which will have a structure named DateOfBirth (Members are: DD, MM, YYYY). Define a function named findAge() that will take two structure variables and print age in Years—Months--Days.</p> <div> Enter Date of Birth [DD MM YYYY] format: 28 12 2018 Enter Date of Birth [DD MM YYYY] format: 30 12 2020 Age is : 2 Years 0 Month 2 days. </div>	J

K	<ol style="list-style-type: none"> 1. WAP to for copying one file to another using Command line argument passing mechanism. You should provide the necessary messages. 2. WAP to read a file, named as “Knowledge.txt”, and count how many vowels, consonants and digits are present. Print the result into a file, named as “result.txt”. You should provide the necessary messages. 3. WAP to open two existing files, named as “computer.txt” and “Science.txt”, and merge them and make a merged file, named as “ComputerScience.txt”. You should provide the necessary messages. 4. WAP to open an existing file named as College.txt and count how many times the word “AEC” are present. You should provide the necessary messages. 	