Programming Exercise 1

1. Operators
   - 1.1. Arithmetic
   - 1.2. Relational
   - 1.3. Logical
   - 1.4. Add two numbers
   - 1.5. Average of 5 numbers
   - 1.6. Even odd
   - 1.7. Divisible by
     - 1.7.1. both 3 and 5
     - 1.7.2. 3 but not 5
   - 1.8. Swapping value of two integers
     - 1.8.1. Three variable
     - 1.8.2. Two variable
   - 1.9. Adding float and integers
   - 1.10. Increment decrement operators
   - 1.11. Roots of a quadratic equation
   - 1.12. C Program to Calculate Area and Circumference of Circle
   - 1.13. C Program to Calculate Area of Scalene Triangle
   - 1.14. C Program to Calculate Area of Equilateral Triangle
   - 1.15. C Program to Calculate Area of Right angle Triangle
   - 1.16. C Program to Calculate Area of Rectangle
   - 1.17. C Program to Calculate Area of Square
   - 1.18. Type conversion and type casting
   - 1.19. General errors and warnings
2. Conditional Statements
   - 2.1. Checking what is the value a==2
   - 2.2. Number is +ve or not
   - 2.3. Greater of the three
   - 2.4. Marks distribution into categories
     - 2.4.1. If else if
     - 2.4.2. Switch
     - 2.4.3. Concatenation of conditions using logical operators
   - 2.5. Conditions where the control logic is '1' or '0'
   - 2.6. Conditional operator
   - 2.7. Check Vowels input
   - 2.8. Lower or upper case
   - 2.9. Change case of character (65-90, 97-122, diff 32)
   - 2.10. Find greatest in 3 numbers
   - 2.11. Reverse a given number
   - 2.12. Calculate sum of 5 subjects and find percentage
   - 2.13. Find Factorial of Number Using Recursion
   - 2.14. Check Whether Given Number is Palindrome or Not
   - 2.15. Check for Armstrong Number in C
   - 2.16. Check Whether Number is Perfect Or Not
   - 2.17. Jump using break continue goto
   - 2.18.
3. Loops
   - 3.1. Print All ASCII Value Table in C Programming
   - 3.2. Find Factorial of Number without using function
   - 3.3. Fibonacci series
   - 3.4. Factorial
   - 3.5. Print the sum of series 1 + 1/2 + 1/3 + 1/4 + ... + 1/n.
   - 3.6. Find answer of the following series. Input steps from keyboard. Sum =12-32+52-72+.....
   - 3.7. Sum of 1^2+2^2+3^2…
   - 3.8. Sum x-x^3/3!+x^5/5!-x^7/7!+….
   - 3.9. Program to copy one string to another
   - 3.10. Count digits
   - 3.11. Sum of digits
   - 3.12. Reversing an integer
     - 3.12.1. Checking palindrome
   - 3.13. Armstrong number (sum of cubes of all digits)
   - 3.14. Patterns printing programs
   - 3.15. Conversion programs
     - 3.15.1. C Program to convert temperature from degree centigrade to Fahrenheit
     - 3.15.2. Decimal to Binary using Bitwise and operator
     - 3.15.3. Program to Convert Binary to Decimal number:Number System
     - 3.15.4. Program for Decimal to Hexadecimal Conversion in C >> Number System
     - 3.15.5. Program for Decimal number to Octal Conversion : Number System
     - 3.15.6. Program to Convert Decimal number into Binary : Number System :
4. Arrays
   - 4.1. Averaging
   - 4.2. Sorting
   - 4.3. Count odd and even, prime numbers
   - 4.4. Max and min in array and how many times they appear in array
   - 4.5. C Program to implement Stack Operations Using Array
   - 4.6. C Program to delete duplicate elements in an array
   - 4.7. C Program to calculate Addition of All Elements in Array
   - 4.8. C program to find Smallest Element in Array in C Programming
   - 4.9. C Program to find Largest Element in Array in C Programming
   - 4.10. C Program to reversing an Array Elements in C Programming
   - 4.11. Merging of Two arrays in C Programming
   - 4.12. Searching element in array
   - 4.13. copy all elements of an array into another array in C
   - 4.14. Program Insert element in an Array
   - 4.15. Program for deletion of an element from the specified location from Array
   - 4.16. Printing Array Elements in C Language
   - 4.17. C Program : Reading Array Elements
   - 4.18. One Dimensional Array All Programs
5. Multidimensional arrays
   - 5.1. Maintain student detail
   - 5.2. Matrix add, subtract, multiply
   - 5.3. C Program to Check whether Matrix is Magic Square or Not ?
   - 5.4. C Program to Print Square of Each Element of 2D Array Matrix
   - 5.5. Program to find Transpose of Given Square Matrix
   - 5.6. C Program to find addition of Lower Triangular Elements in C Programming
   - 5.7. C program to calculate sum of Upper Triangular Elements in C
   - 5.8. C Program to evaluate Subtraction of two matrices (matrix) in C
   - 5.9. C program for addition of two matrices in C
   - 5.10. Addition of Diagonal Elements in Matrix
   - 5.11. Addition of All Elements in Matrix
   - 5.12. Accessing 2-D Array Elements In C Programming
   - 5.13. C Program to Find Inverse Of 3 x 3 Matrix in 10 Lines
   - 5.14. C Program to Multiply Two 3 X 3 Matrices
6. Characters Arrays
   - 6.1. Print all the Letters in Upper Case
   - 6.2. Program that takes a string from user and prints the total number of vowels i.e. (a,e,i,o,u) present in the string.
   - 6.3. Reversing a string
   - 6.4. C Program to Sort set of strings in alphabetical order using strcmp()
   - 6.5. C Program to Convert String to Integer
   - 6.6. Program to convert String into Uppercase Using Library Function
   - 6.7. Program to convert String into Lowercase Using Library Function
   - 6.8. Program to copy one string into other with using library function [strcpy]
   - 6.9. Program to Concat Two Strings with using Library Function : Strcat
   - 6.10. Find Length of String Using Library Function
   - 6.11. C Program to count number of words digits and vowels using pointers in C Programming
   - 6.12. C Program for sorting the list of Strings
   - 6.13. C Program to Find Length of the String using Pointer

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6.14. Write a C Program to Reverse Letter in Each Word of the Entered String
6.15. C Program to Encode a String and Display Encoded String
6.16. C program to Delete all occurrences of Character from the String.
6.17. C Program to Concat Two Strings without Using Library Function
6.18. C Program to Find Substring Of String Without Using Library Function
6.19. C Program : Reverse String Without Using Library Function [Strrev]
6.20. C Program to Compare Two Strings Without Using Library Function [Strcmp]
6.21. C Program to Copy One String into Other Without Using Library Function.
6.22. Check Whether Character is Lowercase or Not without using Library Function
6.23. Check Whether Character is Uppercase or Not without using Library function
6.24. C Program to Count number of Uppercase and Lowercase Letters
6.25. Search occurrence of Character in String :
6.26. With using User-defined Function Write a Program to Find Length of String
6.27. Program to Find Length of String Without using Library Function

7. Pointers
7.1. C Program to Calculate Area of Circle using Pointer
7.2. C Program to read integers into an array and reversing them using pointers
7.3. Reverse two variables to show multiple return from functions
7.4. Access strings using pointers
7.5. Access structure members using Pointer to structure
7.6. Assign values by reference

8. Function
8.1. C Program to Display Prime Numbers Between Intervals by Making Function
8.2. C Program to Check Prime and Armstrong Number by Making Function
8.3. C program to Check Whether a Number can be Express as Sum of Two Prime Numbers
8.4. C program to Find Sum of Natural Numbers using Recursion.
8.5. C program to Calculate Factorial of a Number Using Recursion
8.6. C Program to Find H.C.F Using Recursion
8.7. C program to Reverse a Sentence Using Recursion
8.8. C program to Calculate the Power of a Number Using Recursion
8.9. Finding maximum number out of two numbers using function

9. Recursion
9.1. C Program to print Fibonacci Series using recursion
9.2. C Program to Multiply two Matrices using Recursion
9.3. C Program to calculate sum of numbers 1 to N using recursion
9.4. Find Sum of Digits of the Number using Recursive Function in C Programming
9.5. C Program to print Tower of Hanoi using recursion
9.6. Find Factorial of Number Using Recursion

10. Structure
10.1. C Program to read and print name and other details of 50 students using Structure?
10.2. C Program to sort array of Structure in C Programming
10.3. C program to use structure within union & display the contents of structure elements
10.4. C Program to Calculate Size of Structure using Sizeof Operator
10.5. Sorting Two Structures on the basis of any structure element and Display Information

11. File handling
11.1. C program to copy the contents of one file into another using fputc
11.2. C Program to read last n characters from the file !
11.3. C program to convert the file contents in Upper-case & Write Contents in a output file
11.4. C Program to Compare two text/data files in C Programming
11.5. C Program to Write on Data File and Read From Data File
11.6. C Program to Copy Text From One File to Other File
11.7. How to display same source code as output in c

12. Tricky Programs
12.1. Calender Program in C Programming Language : Display Day of the month
12.2. C Program to show swap of two no's without using third variable
12.3. How to write c program to count number of digits in number without using mod operator
12.4. How to Input Password in C : Validation of User name
12.5. Accept Paragraph using scanf in C
12.6. Print Hello word without using semicolon in C
12.7. Nested Printf statements : Example 2
12.8. Printf inside printf in C : Example 1
12.9. C program to add reversed number with Original Number ?
12.10. C program to reverse the digits of a number ? [In 3 Steps]
12.11. How to Add Digits of the Number Using Single Statement ?
12.12. Swap two numbers without using third variable and using XOR Operator in C Programming
12.13. How to Add two numbers without using arithmetic Operators in C Programming ?
12.14. How to Create Your Own Header File in C Programming ?
12.15. How to write C Program Without using Main Function (in 3 ways) ?
12.16. Swap / Interchange two variables [numbers] without using Third Variable
12.17. How do i Return Multiple Values From a Function
12.18. C Program to Create directory in C using Interrupts.
12.19. How to use Interrupts in C Programming?
12.20. How to print 1-10 numbers without using Conditional Loop in C Programming?

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Programming Exercise 2

1. Integers
a. C Program to Check if a given Integer is Odd or Even
b. C Program to Calculate the Sum of Odd & Even Numbers
c. C Program to Check if a given Integer is Positive or Negative
d. C Program to Find the Number of Integers Divisible by 5
e. C Program to Read Two Integers M and N & Swap their Values
f. C Program to Accept two Integers and Check if they are Equal
g. C Program to Compute the Sum of Digits in a given Integer
2. Number Conversions
a. C Program to Convert the given Binary Number into Decimal
b. C Program to Convert a Decimal Number to Binary & Count the Number of 1s
c. C Program to Convert a Given Number of Days in terms of Years, Weeks & Days
d. C Program to Convert Binary to Octal
e. C Program to Convert Binary to Hexadecimal
f. C Program to Convert Decimal to Octal
g. C program to Convert Decimal to Hexadecimal
h. C Program to Convert Roman Number to Decimal Number
i. C Program to Convert Octal to Binary
j. C Program to Convert Hexadecimal to Binary
k. C Program to Convert Numbers to Roman Numerals
l. C Program to Convert Octal to Decimal
m. C Program to Convert a Number Decimal System to Binary System using Recursion
n. C Program to Convert Binary Code of a Number into its Equivalent Gray's Code without using Recursion
o. C Program to Convert Binary Code of a Number into its Equivalent Gray's Code using Recursion
3. Recursion
a. C Program to find Sum of Digits of a Number using Recursion
b. C Program to find Reverse of a Number using Recursion
c. C Program to find Sum of N Numbers using Recursion
d. C Program to find whether a Number is Prime or Not using Recursion
e. C Program to Print Binary Equivalent of an Integer using Recursion
f. C Program to find Product of 2 Numbers using Recursion
4. Special Numbers
a. C Program to Find the Biggest of 3 Numbers
b. C Program to Reverse a Given Number
c. C Program to Reverse a Number & Check if it is a Palindrome
d. C Program to Find the Sum of two Binary Numbers
e. C Program to Find Multiplication of two Binary Numbers
f. C Program to find Product of 2 Numbers without using Recursion
g. C Program to Check whether a given Number is Armstrong
h. C Program to Check whether a given Number is Perfect Number
i. C Program to Print Armstrong Number from 1 to 1000
j. C Program to Add two Complex Numbers
k. C Program to Generate Fibonacci Series of N Numbers using Command-Line Argument
l. C Program to Compute First N Fibonacci Numbers using Command Line Arguments
m. C Program to Find the Sum of first 50 Natural Numbers using For Loop
n. C Program to Swap the Contents of two Numbers using Bitwise XOR Operation
o. C Program to Multiply given Number by 4 using Bitwise Operators
p. C Program to Find if a given Year is a Leap Year
q. C Program to Extract Last two Digits of a given Year
5. Arrays
a. C Program to Calculate Sum & Average of an Array
b. C Program to Calculate the Sum of the Array Elements using Pointer
c. C Program to Calculate Sum of all Elements of an Array using Pointers as Arguments
d. C Program to Compute the Sum of two One-Dimensional Arrays using Malloc
e. C Program to Find the Sum of Contiguous Subarray within a 1 – D Array of Numbers which has the Largest Sum
f. C Program to Find the Largest Two Numbers in a given Array
g. C Program to Find the Second Largest & Smallest Elements in an Array
h. C Program to Find the Largest Number in an Array
i. C Program to Put Even & Odd Elements of an Array in 2 Separate Arrays
j. C Program to Insert an Element in a Specified Position in a given Array
k. C Program to Delete the Specified Integer from an Array
l. C Program to Cyclically Permute the Elements of an Array
m. C Program to Sort the Array in an Ascending Order
n. C Program to Sort the Array in Descending Order
o. C Program to Sort Names in an Alphabetical Order
p. C Program to Merge and Sort Elements of 2 different Arrays
q. C Program to Merge the Elements of 2 Sorted Array
r. C Program to Sort N Numbers in Ascending Order using Bubble Sort
s. C Program to Split an Array from Specified Position & Add First Part to the End
t. C Program to Accept an Array & Swap Elements using Pointers
u. C Program to Read an Array and Search for an Element
v. C Program to accept Sorted Array and do Search using Binary Search
w. C Program to find the Biggest Number in an Array of Numbers using Recursion
x. C Program to Generate Pascal Triangle 1 D Array
y. C Program to Print the Number of Odd & Even Numbers in an Array
z. C Program to Print All the Repeated Numbers with Frequency in an Array
6. Advanced Programs on Arrays
a. C Program to Print the kth Element in the Array
b. C Program to Find the Number of Elements in an Array
c. C Program to Check Array bounds while Inputing Elements into the Array
d. C Program to Print the Alternate Elements in an Array
e. C Program to Find the Odd Element given an Array with only two Different Element
f. C Program to Increment Every Element of the Array by One & Print Incremented Array
g. C Program to Find the Number of Non Repeated Elements in an Array
h. C Program to identify missing Numbers in a given Array
i. C Program to Segregate 0s on Left Side & 1s on right side of the Array
j. C Program to Find 2 Elements in the Array such that Difference between them is Largest
k. C Program to Print Diamond Pattern
l. C Program to Print any Print Statement without using Semicolon

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m. C Program to Display its own Source Code as its Output
7. Matrices
a. C Program to Calculate the Addition or Subtraction & Trace of 2 Matrices
b. C Program to Find the Transpose of a given Matrix
c. C Program to Compute the Product of Two Matrices
d. C Program to Calculate the Sum & Difference of the Matrices
e. C Program to Perform Matrix Multiplication using Recursion
f. C Program to Check if 2 Matrices are Equal
g. C Program to Check if a given Matrix is an Identity Matrix
h. C Program to Determine if a given Matrix is a Sparse Matrix
i. C Program to Interchange any two Rows & Columns in the given Matrix
j. C Program to Sort Rows of the Matrix in Ascending & Columns in Descending Order
k. C Program to Calculate the Sum of the Elements of each Row & Column
l. C Program to Find the Frequency of Odd & Even Numbers in the given Matrix
m. C Program to Accept a Matrix of Order MxN & Interchange the Diagonals
n. C Program to Find the Sum of each Row & each Column of a MxN Matrix
o. C Program to do the Sum of the Main & Opposite Diagonal Elements of a MxN Matrix
p. C Program to Find the Trace & Normal of a given Matrix
q. C Program to Display Upper Triangular Matrix
r. C Program to Display Lower Triangular Matrix
8. Strings
a. C Program to Check if a given String is Palindrome
b. C Program to Check if a String is a Palindrome without using the Built-in Function
c. C Program to Check whether a given String is Palindrome or not using Recursion
d. C Program To Print Smallest and Biggest possible Word which is Palindrome in a given String
e. C Program to Find the Largest & Smallest Word in a String
f. C Program to read two Strings & Concatenate the Strings
g. C Program to Concatenate two Strings Lexically
h. C Program to Check if the Substring is present in the given String
i. C Program to Accepts two Strings & Compare them
j. C Program to Find the Length of a String without using the Built-in Function
k. C Program to Replace Lowercase Characters by Uppercase & Vice-Versa
l. C Program to Remove given Word from a String
m. C Program to Remove all Characters in Second String which are present in First String
n. C Program to Replace all the Characters by Lowercase
o. C Program to Reverse the String using Recursion
p. C Program to Reverse every Word of given String
q. C Program to Count the Number of Vowels & Consonants in a Sentence
r. C Program to Delete All Repeated Words in String
s. C Program to Reverse the String using Both Recursion and Iteration
t. C Program to Count the Total Number of Words in the Sentence using Command Line Argument
u. C Program to Find the Frequency of the Word 'the' in a given Sentence
v. C Program to Read a String and find the Sum of all Digits in the String
w. C Program to Copy One String to Another using Recursion
x. C Program to find the First Capital Letter in a String using Recursion
y. C Program to find the First Capital Letter in a String without using Recursion
z. C Program to find the Length of the String using Recursion
9. Advanced Programs on Strings
a. C Program to find Longer Repeating Sequence
b. C Program to Find the Frequency of Substring in the given String
c. C Program to Find the Frequency of Every Word in a given String
d. C Program to Find Highest Frequency Character in a String
e. C Program to Find the Length of the Longest Repeating Sequence in a String
f. C Program to find the possible subsets of the String
g. C Program to Check whether two Strings are Anagrams
h. C Program to Display every possible Combination of two Words or Strings from the input Strings without Repeated Combinations
i. C Program to List All Lines containing a given String
j. C Program to Print the Words Ending with Letter S
k. C Program to Insert Character/Word in any Desired Location in a String
l. C Program to Implement Regular Expression Matching
m. C Program to Implement strpbrk() Function
n. C Program to Implement the KMP Pattern Searching Algorithm
o. C Program to Sort Word in String
p. C Program to Sort String Ignoring Whitespaces and Repeating Characters Only Once
q. C Program to Sort the String and Repeated Characters should be present only Once
r. C Program to Count the Number of Unique Words
s. C Program to Search a Word & Replace it with the Specified Word
t. C Program to Display the Characters in Prime Position a given String
u. C Program to Count Number of Words in a given Text Or Sentence
v. C Program to Print Combination of two Words of two given Strings without any Repetition
w. C Program to Display Every Possible Combination of Two Words from the given 2 String without Displaying Repeated Combinations
x. C Program to Accept 2 String & check whether all Characters in first String is Present in second String & Print
y. C Program to Check whether a given Character is present in a String, Find Frequency & Position of Occurrence
z. C Program to Count the Number of Occurrence of each Character Ignoring the Case of Alphabets & Display them
aa. C Program to Count the Occurrences of each C Keyword using Array Structure
bb. C Program to Find the First Occurrence of the any Character of String2 in String1
cc. C Program to find First and Last Occurrence of given Character in a String
dd. C Program to Find the Most/Least Repeated Character in the String
ee. C Program to Count the Occurrence of a Substring in String

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ff. C Program to Determine if One String is a Circular Permutation of Another String
gg. C Program to Find the Consecutive Occurrence of any Vowel in a String
hh. C Program to Input 2 Binary Strings and Print their Binary Sum
ii. C Program to Input a String with at least one Number, Print the Square of all the Numbers in a String
jj. C Program which Converts an Integer to String & vice-versa
kk. C program that takes input as 2323 and gives output as 2332. ie. the new number should be greater than the previous number but should have the same digits
ll. C Program to Find the Sum of ASCII values of All Characters in a given String

10. Mathematics and Bitwise Operators

a. C Program to Check whether the given Integer has an Alternate Pattern
b. C Program to round Floor of integer to next Lower Power of 2
c. C Program that uses Function to return MSB position of unsigned Integer
d. C Program to use Bitwise Operations to Round(floor of) an Integer to next Lower Multiple of 2
e. C Program to Print the Range of Fundamental Data Types
f. C Program to Check if All the Bits of a given Integer is One(1)
g. C Program to find Next higher Value of N with same 1's
h. C Program to Count the Number of Trailing Zeroes in Integer
i. C Program to Use Bitwise Operations to Count the Number of Leading Zero's in a Number x
j. C Program to find the Highest Bit Set for any given Integer
k. C Program to Count Number of bits set to 0 in an Integer
l. C Program to Replace Bits in Integer from Specified Positions from Another Integer
m. C Program to Replace Bits in Integer x from Bit Position a to b from another Integer y
n. C Program takes Byte as Input and returns all the Bits between given Positions
o. C Program to Swap the ith and jth Bits for a 32-Bit Integer
p. C Program to Check if a given Integer is Power of 2 using Bitwise Operators
q. C Program to Swap two Integers without using Temporary Variables and Bitwise Operations
r. C Program to Find the Position of String of 1-bits in a Number for a given Length
s. C Program to Check if nth Bit in a 32-bit Integer is Set or not
t. C Program to Check if a given Bit Position is set to One or not
u. C Program to Perform Binary Addition of Strings and Print it
v. C Program to Reverse all the Bits of an 32-bit Integer using Bitwise
w. C Program to Count the Number of Bits needed to be Flipped to Integer X to Generate Integer Y
x. C Program to Count the Number of Bits set to One using Bitwise Operations
y. C Program To Identify the Missing Number in an Integer Array of Size N-1 with Numbers[1,N]
z. C Program to Check whether the given Number is Palindrome or not using Bitwise Operator
aa. C Program to Swap two Numbers using Bitwise operators

11. File Handling

a. C Program to Create a File & Store Information
b. C Program to Illustrate Reading of Data from a File
c. C Program to Delete a specific Line from a Text File
d. C Program to Replace a specified Line in a Text File
e. C Program to Find the Number of Lines in a Text File
f. C Program to Append the Content of File at the end of Another
g. C Program that Merges Lines Alternatively from 2 Files & Print Result
h. C Program to List Files in Directory
i. C Program to Find Sum of Numbers given in Command Line Arguments Recursively
j. C Program to Display the Function Names defined in C Source File
k. C Program to Find the Size of File using File Handling Function
l. C Program to Capitalize First Letter of every Word in a File
m. C Program to Print Environment Variables
n. C Program to Copy File into Another File
o. C Program to Create Employee Record and Update it
p. C Program to Compare two Binary Files, Printing the First Byte Position where they Differ
q. C Program to Convert the Content of File to UpperCase
r. C Program to Replace First Letter of every Word with Capital Letter
s. C Program to Count No of Lines, Blank Lines, Comments in a given Program
t. C Program to Reverse the Contents of a File and Print it
u. C Program to Convert the Content of File to LowerCase
v. C Program to Update Details of Employee using Files
w. C Program to Create Employee File Name Record that is taken from the Command-Line Argument
x. C Program to Join Lines of Two given Files and Store them in a New file
y. C Program to Collect Statistics of a Source File like Total Lines, Total no. of Blank Lines, Total no. of Lines ending with Semicolon

12. Mathematical Programs

a. C Program to Calculate the Simple Interest
b. C Program to Find out the Roots of a Quadratic Equation
c. C Program to Simulate a Simple Calculator
d. C Program to Generate Fibonacci Series
e. C Program to find the Nth Fibonacci Number using Recursion
f. C Program to Find First N Fibonacci Numbers
g. C Program to Find the GCD and LCM of Two Integers
h. C Program to find HCF of a given Number using Recursion
i. C Program to find LCM of a Number using Recursion
j. C Program to find GCD of given Numbers using Recursion
k. C Program to find HCF of a given Number without using Recursion
l. C Program to Calculate the Value of sin(x)
m. C Program to Calculate the Value of cos(x)
n. C Program to Calculate the Sum of cos(x) Series
o. C Program to Find the Sum of First N Natural Numbers
p. C Program to Check if a given Number is Prime number
q. C Program to Find Prime Numbers in a given Range
r. C Program to Calculate the Mean, Variance & Standard Deviation
s. C Program to Evaluate the given Polynomial Equation
t. C Program to Read a Coordinate Point and Determine its Quadrant
u. C Program to find Power of a Number using Recursion
v. C Program to find the Factorial of a Number using Recursion
w. C Program to Compute the Value of X ^ N
x. C Program to Print the Factorial of a given Number
y. C program to Calculate the value of nCr
z. C Program to Find & Display Multiplication Table
aa. C Program to Find out the Sum of Series 1^2 + 2^2 + … + n^2

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bb. C Program to Find the Sum of Series 1 + 1/2 + 1/3 + 1/4 + … + 1/N
cc. C Program to Find Sum of the Series 1/1! + 2/2! + 3/3! + ……1/N!
dd. C Program to Find the Sum of A.P Series
ee. C Program to Find the Sum of G.P Series
ff. C Program to Find the Sum of H.P Series
gg. C Program to Calculate the Area of a Triangle
hh. C Program to Calculate the Area of a Circle
ii. C Program to Find the Area of Right angled Triangle
jj. C Program to Find the Area of Trapezium
kk. C Program to Find the Area of Rhombus
ll. C Program to Find the Area of Parallelogram
mm. C Program to Compute the Surface Area & Volume of a Cube
nn. C Program to Find the Areas of Different Geometrical Figures
oo. C Program to Find the Volume and Surface Area of cylinder
pp. C Program to Find the Volume and Surface Area of Cuboids
qq. C Program to Find the Surface Area and Volume of a Cone
rr. C Program to Find the Volume and Surface Area of Sphere
ss. C Program to Find the Perimeter of a Circle, Rectangle and Triangle
tt. C Program to Display Floyd's Triangle
uu. C Program to Display Pascal triangle
vv. C Program to Calculate the Value of nPr

13. Recursion

a. C Program for Depth First Binary Tree Search using Recursion
b. C Program to Traverse the Tree Recursively
c. C Program to Reverse a Stack using Recursion
d. C Program to find the Length of the String using Recursion
e. C Program to Implement Selection Sort Recursively
f. C Program to Input Few Numbers & Perform Merge Sort on them using Recursion
g. C Program to find the Nth Fibonacci Number using Recursion
h. C Program to find the Biggest Number in an Array of Numbers using Recursion
i. C Program to find Sum of Digits of a Number using Recursion
j. C Program to find Sum of N Numbers using Recursion
k. C Program to Perform Matrix Multiplication using Recursion
l. C Program to Display the Nodes of a Linked List in Reverse using Recursion
m. C Program to Display all the Nodes in a Linked List using Recursion
n. C Program Count the Number of Occurrences of an Element in the Linked List using Recursion
o. C Program find the Length of the Linked List using Recursion
p. C Program to Perform Binary Search using Recursion
q. C Program to Perform Quick Sort on a set of Entries from a File using Recursion
r. C Program to Reverse the String using Recursion
s. C Program to find Reverse of a Number using Recursion
t. C Program to Solve Tower-of-Hanoi Problem using Recursion
u. C Program to Copy One String to Another using Recursion
v. C Program to Check whether a given String is Palindrome or not using Recursion
w. C Program to find whether a Number is Prime or Not using Recursion
x. C Program to find the Factorial of a Number using Recursion
y. C Program to find LCM of a Number using Recursion
z. C Program to find GCD of given Numbers using Recursion
aa. C Program to find HCF of a given Number using Recursion
bb. C Program to find Product of 2 Numbers using Recursion
cc. C Program to find Power of a Number using Recursion
dd. C Program to Print Binary Equivalent of an Integer using Recursion
ee. C Program to Print the Alternate Nodes in a Linked List using Recursion
ff. C Program to Convert a Number Decimal System to Binary System using Recursion
gg. C Program to find the First Capital Letter in a String using Recursion

14. Without recursion

a. C Program to Search an Element in a Tree Non-Recursively
b. C Program to Traverse the Tree Non-Recursively
c. C Program for Depth First Binary Tree Search without using Recursion
d. C Program to find HCF of a given Number without using Recursion
e. C Program to Solve the Magic Squares Puzzle without using Recursion
f. C Program to Convert Binary Code of a Number into its Equivalent Gray's Code without using Recursion
g. C Program to find Product of 2 Numbers without using Recursion
h. C Program to Convert Binary Code of a Number into its Equivalent Gray's Code using Recursion
i. C Program to Print the Alternate Nodes in a Linked List without using Recursion
j. C Program find the Length of the Linked List without using Recursion
k. C Program Count the Number of Occurrences of an Element in the Linked List without using Recursion
l. C Program to Display all the Nodes in a Linked List without using Recursion
m. C Program to Display the Nodes of a Linked List in Reverse without using Recursion
n. C Program to Search for an Element in the Linked List without using Recursion
o. C Program to Reverse a Stack without using Recursion
p. C Program to find the First Capital Letter in a String without using Recursion

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