

Must Solve Basic C Programming Questions with Solutions

Basic C Programs on Control Statements (Looping) & Recursion

Easy

- A character is a vowel or consonant
- A character is an alphabet or not
- Ascii values of a character
- Uppercase, Lowercase or special character
- A number is positive or negative
- A number is even or odd
- Swap two numbers without third variable
- Area of a circle
- LCM of two numbers
- GCD of two numbers
- Greatest of two numbers
- Greatest of three numbers
- Number of digits in an integer
- Sum of digits of a number
- Sum of N natural numbers
- Sum of numbers in a given range
- Reverse a given number
- Factorial of a number
- Fibonacci series up to n
- Leap year or not
- Prime number or not
- Palindrome or not
- Armstrong number or not
- Strong number or not
- Perfect number or not
- Friendly pair or not (amicable or not)
- Automorphic number or not
- Harshad number or not
- Abundant number or not
- Power of a number
- Factors of a number
- Add two fractions

Medium

-
- Prime numbers in a given range
- Armstrong numbers between two intervals
- Can a number be expressed as a sum of two prime numbers?
- Replace all 0's with 1 in a given integer
- Binary to decimal conversion
- Decimal to binary conversion
- Decimal to octal conversion
- Octal to decimal conversion
- Binary to octal conversion
- Octal to binary conversion
- Maximum number of handshakes
- Quadrants in which coordinates lie
- Convert digit/number to words
- Number of days in a given month of a given year
- Permutations in which n people can occupy r seats in a theatre
- Number of times digit 3 occurs in each and every number from 0 to n
- Number of integers which has exactly 9 divisors
- Roots of a quadratic equation
- Count possible decodings of a given digit sequence

Pattern printing programs

- Solid and hollow rectangle star pattern
- Pyramid pattern using stars
- Pyramid pattern using numbers
- Palindromic pyramid pattern printing
- Diamond pattern printing using stars
- Diamond pattern printing using numbers
- Floyd's triangle
- Pascal triangle
- All other pattern programs

Basic C Programs on Strings

- Basic string operations
- Length of the string without using strlen() function
- Toggle each character in a string
- Count the number of vowels
- Remove vowels from a string
- String is a palindrome or not
- Sorting a string in alphabetical order
- Removing brackets from an algebraic expression
- Remove characters in a string except alphabets
- Remove spaces from a string
- Count the sum of numbers in a string
- Capitalize the first and last letter of each word of a string
- Frequency of characters in a string
- Non-repeating characters in a string
- Check if two strings are Anagram or not
- Patterns of 0(1+)0 in the given string
- Replace substring in a string
- Count common subsequence in two strings
- Reverse a string
- Check if two strings match where one string contains wildcard characters

Arrays

1-D Arrays

- Basic array operations (Insert, delete and search an element)
- Smallest and largest element in an array
- Sum of elements in an array
- Check if two arrays are the same or not
- Finding the array type
- Sum of positive square elements in an array
- Second smallest element in an array
- Sorting the elements of an array
- Reversing an array
- Longest palindrome in an array
- Count distinct elements of an array
- Non-repeating elements of an array
- Repeating elements in an array
- Remove duplicate elements in an array
- Minimum scalar product of two vectors

- Maximum scalar product of two vectors
- Can the numbers of an array be made equal?
- Missing elements of a range
- Triplets with a given sum
- Number of even and odd elements in an array
- Frequency of each element of an array
- Symmetric pairs in an array
- Maximum product subarray in a given array
- Arrays are disjoint or not
- Array is a subset of another array or not
- Can all numbers of an array be made equal
- Minimum sum of absolute difference of given array
- Sorting elements of an array by frequency
- Sort an array according to the order defined by another array
- Replace each element of the array by its rank in the array
- Equilibrium index of an array
- Array rotation - Left and right
- Block swap algorithm for array rotation
- Juggling algorithm for array rotation
- Circular rotation of an array by K positions
- Convert an array into a zig-zag fashion
- Merge two sorted arrays
- Longest subarray having an average greater than or equal to k
- Rearrange positive and negative numbers in an array
- Sum of all odd frequency elements in an array
- Median of two sorted arrays
- 0-1 Knapsack problem

2-D Arrays

- Matrix operations (Addition, subtraction and multiplication)
- Transpose of a matrix
- Upper triangular matrix or not
- Lower triangular matrix or not
- The maximum element in a row
- The maximum element in a column
- Sum of each row and column of a matrix
- Saddle point coordinates of a given matrix
- Sum of elements in the zig-zag sequence of a matrix
- Sum of boundary elements of a matrix
- Matrix printing in spiral form
- Rotate the matrix by K times

- Matrix rotation by 90 degrees clockwise and anticlockwise
- Maximum size of square submatrix with all 1s in a binary matrix