100 C Programming Practice Problems

Basic Concepts (1-10)

1. Write a program to print “Hello, World!”.
2. Write a program to take an integer input and print it.
3. Write a program to add two integers.
4. Write a program to multiply two floating-point numbers.
5. Write a program to find the ASCII value of a character.
6. Write a program to compute quotient and remainder.
7. Write a program to find the size of int, float, double and char.
8. Write a program to demonstrate the working of keyword long.
9. Write a program to swap two numbers.
10. Write a program to swap two numbers without using a temporary variable.

Control Flow (11-30)

11. Check whether a number is even or odd.
12. Check whether a character is a vowel or consonant.
13. Find the largest number among three numbers.
14. Find the roots of a quadratic equation.
15. Check whether a year is a leap year or not.
16. Check whether a number is positive or negative.
17. Check whether a character is an alphabet or not.
18. Calculate the sum of natural numbers.
19. Find the factorial of a number.
20. Generate the multiplication table of a number.
21. Display the Fibonacci sequence.
22. Find the GCD of two numbers.
23. Find the LCM of two numbers.
24. Display characters from A to Z using loop.
25. Count number of digits in an integer.
26. Reverse a number.
27. Calculate the power of a number.
28. Check whether a number is a palindrome or not.
29. Check whether a number is prime or not.
30. Display prime numbers between two intervals.

Functions & Recursion (31-45)

31. Check prime number by creating a function.
32. Display prime numbers between two intervals using user-defined function.
33. Check Armstrong number using user-defined function.
34. Check whether a number can be expressed as sum of two prime numbers.
35. Find the sum of natural numbers using recursion.
36. Find the factorial of a number using recursion.

37. Find G.C.D using recursion.
38. Reverse a sentence using recursion.
39. Calculate the power of a number using recursion.
40. Convert binary number to decimal and vice-versa.
41. Convert octal number to decimal and vice-versa.
42. Convert binary number to octal and vice-versa.
43. Write a function to calculate area of a circle.
44. Write a function to find maximum of two numbers.
45. Write a recursive function to print Fibonacci series.

Arrays & Pointers (46-65)

46. Calculate average using arrays.
47. Find largest element of an array.
48. Calculate standard deviation.
49. Add two matrices using multi-dimensional arrays.
50. Multiply two matrices using multi-dimensional arrays.
51. Find transpose of a matrix.
52. Multiply two matrices by passing matrix to a function.
53. Access elements of an array using pointers.
54. Swap numbers in cyclic order using call by reference.
55. Find the largest number using dynamic memory allocation.
56. Sort elements in lexicographical order (dictionary order).
57. Calculate the sum of array elements using pointers.
58. Reverse an array using pointers.
59. Search an element in an array using pointers.
60. Copy one array to another using pointers.
61. Concatenate two arrays using pointers.
62. Find the length of an array using pointers.
63. Sort an array using pointers.
64. Merge two sorted arrays.
65. Split an array into two halves.

Strings (66-80)

66. Find the frequency of characters in a string.
67. Count the number of vowels, consonants and so on.
68. Remove all characters in a string except alphabets.
69. Find the length of a string.
70. Concatenate two strings.
71. Copy string without using strcpy().
72. Sort elements in lexicographical order (dictionary order).
73. Check if a string is a palindrome.
74. Count words in a string.
75. Reverse a string using recursion.
76. Find the first occurrence of a character in a string.

77. Find the last occurrence of a character in a string.
78. Search all occurrences of a character in a string.
79. Count occurrences of a character in a string.
80. Find the highest frequency character in a string.

Structures & Unions (81-90)

81. Store information of a student using structure.
82. Add two distances (in inch-feet) system using structures.
83. Add two complex numbers by passing structure to a function.
84. Calculate difference between two time periods.
85. Store information of 10 students using structures.
86. Demonstrate the use of unions.
87. Calculate the area of shapes using union.
88. Create a structure for employee details.
89. Sort an array of structures.
90. Pass structure to a function.

File Handling (91-100)

91. Write a sentence to a file.
92. Read a line from a file and display it.
93. Write a C program to display its own source code.
94. Read numbers from a file and calculate sum.
95. Count lines in a file.
96. Copy a file to another file.
97. Merge two files.
98. Delete a file.
99. Rename a file.
100. Update a record in a file.