

PROGRAMMING FOR PROBLEM-SOLVING LAB

QUESTIONS-2023

ECE 1st year, 2nd Semester

1. Write a C program to print "Hello World".
2. Write a C program to Add two numbers.
3. Write a C program to find the area and perimeter of a rectangle.
4. Write a C program to calculate the area of a circle.
5. Write a C program to swap two numbers using a third variable.
6. Write a C program to swap two numbers without using a third variable.
7. Write a C program to find the greatest among three numbers using conditional statements.
8. Write a C program to determine whether a number is even or odd.
9. Write a C program to check whether the given year is Leap Year or not.
10. Write a C program to print a multiplication table of a given number using for loop.
11. Write a C program to grade marks using the switch statement.
12. Write a C program to find the factorial of a number using for loop.
13. Write a C program to print the Fibonacci series using for loop.
14. Write a C program to determine whether a number is a Palindrome of a number using a while loop.
15. Write a C program to find the roots of a quadratic equation.
16. Write a C program to find the corresponding day of the week.
17. Write a C program to determine whether a given triangle is equilateral, scalene, or isosceles by taking the sides of the triangle.

Write a C program to print different patterns given below:

18. * ** *** **** *****	19. * ** *** **** *****	20. * ** *** **** *****	21. ***** **** *** ** *	22. ***** **** *** ** *	23. * ** * * * * *****
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24. A BB CCC DDDD EEEE	25. AB ABCD ABCDEF ABCDEFGH	26. A1 AB12 ABC123 ABCD1234	27. ***** * * * * * * * * * * * * * * * * * * * *****	28. * ** *** * ** ** **	29. ***** * * * * * * *****
30. ** **** ***** *****	31. 1 01 101 0101 10101	32. * * * * * * * * * * * * *			

33. Write a C program to find the greatest among two numbers using a function.
34. Write a C program to make a calculator using a function.
35. Write a C program to find the square of any number using a function.
36. Write a C program to determine whether a number is a palindrome or not using a function.
37. Write a C program to add two numbers using a function.
38. Write a C program to find the factorial of a number using recursion.
39. Write a C program to find the sum of n numbers using recursion.
40. Write a C program to find the power of a number using recursion.
41. Write a C program to find the sum $(1+1/2+1/3+1/4+1/5+1/6+1/7\dots)$ in the $1/(1+2+3+4+5+6+7\dots)$ form.
42. Write a C program to swap two numbers using a function.
43. Write a C program to find the GCD and LCM of numbers using recursion.
44. Write a C program to determine if a number is prime or not.
45. Write a C program to convert decimal to binary.
46. Write a C program to display the element of a user-defined array.
47. Write a C program to reverse an array.
48. Write a C program to combine two arrays.
49. Write a C program to find the maximum and minimum in an array.
50. Write a C program to find duplicates in an array.
51. Write a C program to divide an array into two sub-arrays.
52. Write a C program to sort an array into ascending and descending order.

53. Write a C program to find an element in an array.
54. Write a C program to reverse an array using pointers.
55. Write a C program to make a calculator using pointers.
56. Write a C program to display user-defined students' details using structure.
57. Write a C program to find the length of a user-defined string without the library function.
58. Write a C program to find the no. of words in a given string.
59. Write a C program to reverse a string without a library function.
60. Write a C program to find the number of alphabets, digits, and special characters in a given string.
61. Write a C program to sort a string.
62. Write a C program to extract a substring from a string.
63. Write a C program to find the presence of a substring in a given string.
64. Write a C program to find the frequency of a character in a string.
65. Write a C program to concatenate two strings.
66. Write a C program to convert uppercase characters to lowercase and vice versa without using the library function.
67. Write a C program to add two 2-dimensional arrays.
68. Write a C program to subtract two 2-dimensional arrays.
69. Write a C program to multiply two 2-dimensional arrays.
70. Write a C program to find the transpose of a 2-D array.
71. Write a C program to copy a 2-D array in reverse order.
72. Write a C program to implement the following string library functions-
 - strlen()
 - strcmp ()
 - strcpy ()
 - strncmp ()
 - strncpy ()
 - strrev ()
 - strcat ()
 - strstr ()
 - strncat ()