PROGRAMMING FOR PROBLEM SOLVING LAB

PAPER CODE: ESCS 291

Assignment	Experiment Name	Date of Experiment	Date of Submission
Assignment 1	1. Write a C program to print "Hello World". 2. Write a C program for addition, subtraction, multiplication and division of two numbers. 3. Write a C program to calculate the average of three numbers. 4. Write a C program to calculate Simple Interest. *[SI=Principal*Interest rate*Time]* 5. Write a C program to convert temperature in Fahrenheit to Celsius and Celsius to Fahrenheit.	Group A & B 21/03/2024	Group A & B 01/04/2024
Assignment 2	6. Write a C program for swapping of two numbers using a temporary variable. 7. Write a C program for swapping of two numbers without using a temporary variable. 8. Write a C program to find the area of a triangle using Heron's formula. *[Area=$\sqrt{S*(S-a)*(S-b)*(S-c)}$), where S= (a+ b+ c)/2, S is semi -perimeter]* 9. Write a C program to calculate Compound Interest. *[CI=Principal*$(1+\frac{Rate}{100})^{Time}$]* 10. Write a C program to calculate distance between two points. *[D = $\sqrt{(x2-x1)^2+(y2-y1)^2}$)]*	Group A & B 01/04/2024	Group A & B 04/04/2024
Assignment 3	11. Write a C program to check a number is ODD or EVEN. 12. Write a C program to find the maximum of three numbers using if-else. 13. Write a C program to find the maximum of three numbers using Conditional/Ternary operator. 14. Write a C program to check a character is Vowel or not. 15. Write a C program to check a given year is Leap Year or not. 16. Write a C program to Calculate the Roots of a Quadratic Equation.	Group A & B 04/04/2024	Group A & B 08/04/2024

Assignment 4	17. Write a C program to input any week day number and print corresponding week day name using switch case.	Group A 08/04/2024	Group B 12/04/2024

	18. Write a C program for grading the Students in an Academic Institution. The grading is done according to the following rules using switch-case.
	    Grade **Average marks**
	    'O' 90-100
	    'E' 80-89
	    'A' 70-79
	    'B' 60-69
	    'C' 50-59
	    'D' 40-49
	    'F' 0-39
		Group B
		
		12/04/2024
			Group B
			
			15/04/2024

	19. Write a C program to check a number is ODD or EVEN using switch case.		
	20. Write a C program to design a Calculator with basic operations using switch case.		
Assignment 5	21. Write a C program to calculate the summation and average of first N natural numbers.	Group A & B 15/04/2024	Group A & B 18/04/2024
	22. Write a C program to find the factorial of a number.		
	23. Write a C program to print the Fibonacci series up to Nth term.		
	24. Write a C program to find the GCD of two numbers.		
	25. Write a C program to check a number is prime or not.		
Assignment 6	26. Write a C program to count the number of digits and calculate the sum of digits of an integer.	Group A & B 15/04/2024	Group A & B 18/04/2024
	27. Write a C program to reverse an integer and check an integer is Palindrome or not.		
	28. 2Write a C program to check an integer is Armstrong number or not.		
	29. Write a C program to check an integer is Perfect number or not.		
	30. Write a C program to check an integer is Strong number or not.		

Assignment 7	31. Write C Programs to print the following patterns	Group B 25/04/2024 Group A 26/04/2024	Group A & Group B 29/04/2024
| ```
* * * * *
* * * *
* * *
* *
*
``` | ```
*
* *
* * *
* * * *
* * * * *
``` | ```
* * * * *
* * * *
* * *
* *
*
``` | |
| ```
        *
      * *
    * * *
  * * * *
* * * * *
``` | ```
A
A B
A B C
A B C D
A B C D E
``` | ```
A
B A
C B A
D C B A
E D C B A
``` | |
| ```
    *
   * * *
  * * * * *
 * * * * * * *
* * * * * * * * *
``` | ```
* * * * * * * * *
  * * * * * * *
    * * * * *
      * * *
        *
``` | ```
*                 *
* *             * *
* * *         * * *
* * * *     * * * *
* * * * * * * * * *
``` | |
| ```
    *
   * * *
  * * * * *
 * * * * * * *
* * * * * * * * *
 * * * * * * *
  * * * * *
   * * *
    *
``` | ```
* * * * * * * * *
 * * * * * * *
  * * * * *
   * * *
    *
   * * *
  * * * * *
 * * * * * * *
* * * * * * * * *
``` | ```
* * * * * * * * * *
*                 *
*                 *
*                 *
*                 *
*                 *
*                 *
*                 *
*                 *
* * * * * * * * * *
``` | |

Assignment 8	32. Write C Programs to print the following serie	Group A	Group A
	I. 1 4 9 16 25 36.............		
	II. 1 11 111 1111 11111..................	29/04/2024	3/05/2024
	III. 1+(1+2)+(1+2+3)+(1+2+3+4)+(1+2+3+4+5)+......		
	.	Group B	Group B
	IV. 0 7 26 63.......…		
	V. 1 – 1/4 + 1/9- 1/16 +........	16/05/2024	22/05/2024
	VI. $1 - \dfrac{x^2}{2!} + \dfrac{x^4}{4!} - \dfrac{x^6}{6!}+$.......…		

Assignment 9	33. Write a C program to accept n elements of an array and print the sum of even and odd numbers.	Group A & B 21/05/2024	Group A & B 27/05/2024
	34. Write a C program to accept n elements of an array and print the maximum and minimum elements of the array.		
	35. Write a C program to accept n elements of an array and reverse the elements on the same array and print the resultant array.		
	36. Write a C program to check if an array elements are Palindrome or not.		
	37. Write a C program to Search an element whether it is present or not in the array.		
Assignment 10	38. Write a C program to Insert an element at a required position in to an array.	Group A & B 27/05/2024	Group A & B 30/05/2024
	39. Write a C program to Delete an element at a required position from an array.		
	40. Write a C program for addition of two matrices.		
	41. Write a C program for multiplication of two matrices.		
	42. Write a C program for transpose of a matrix.		
Assignment 11	43. Write a C program to swap elements using call by value.	Group A & B 30/05/2024	Group A & B 03/06/2024
	44. Write a C program to swap elements using call by reference		
	45. Write a C Program to Store Information of Students Using Structure.		
	46. Write a C Program to Store Information of Books Using Structure.		
Assignment 12	47. Write a C Program using recursive function to compute the Factorial of a number.	Group A & B 30/05/2024	Group A & B 03/06/2024
	48. Write a C Program using recursive function to compute the Fibonacci number in the nth position.		
	49. Write a C program to reverse a string without using String Handling function.		
	50. Write a C program to Find the frequency of a Character in a String		