

Updated List of C programs

Experiment-I (Basic Programs)

1. Implement C program to display a message “Hello World”.
2. Implement C Program to illustrate Arithmetic operators. This program takes an integer variable i and performs the basic arithmetic functions like Addition, Subtraction, Multiplication, Division, Unary Addition and Unary Subtraction.
3. Implement C program which demonstrates the working of increment (++) and decrement (–) operators. Increment operator ++ adds 1 to its operand and Decrement operator -- subtracts 1 from its operand.
4. Implement C program to find the area of a circle, given the radius.
5. Implement C program to calculate the area of:
 - a. Trapezium
 - b. Rhombus
 - c. Parallelogram
 - d. Cube
6. Implement C program to calculate the surface area, volume, and space diagonal of cuboids.
7. Implement C program to calculate the surface area, volume of Cone.
8. Implement C program to calculate the surface area, volume of the Sphere
9. Implement C program to calculate Simple Interest.
10. Implement C Program to compute the area of an isosceles triangle.
11. Implement C program to find subtraction of two integer number
12. Implement C program to find cube of an integer number using two different methods:
 - 1) without using pow () function and 2) using pow () function.
13. Implement C program to find area of a rectangle.
14. Implement C program to calculate HCF of two numbers.
15. Implement C program to convert feet to inches.
16. Implement C program to find quotient and remainder.
17. Implement C program to find gross salary of an employee.
18. Implement C program to calculate X^N (X to the power of N) using pow function.
19. Implement C program to print size of variables using sizeof () operator.
20. Implement C program to find the remainder of two numbers without using modulus (%) operator.
21. Implement C programs to swap two numbers using four different methods:
 - a. Using third variable
 - b. Without using third variable
 - c. Using X-OR operator
 - d. Using simple statement
22. Implement C program to calculate the value of nCr .
23. Implement C program to calculate the value of nPr .

Experiment-II (Using If-else)

1. Implement C program to check whether number is EVEN or ODD.
2. Implement C program to find largest number among three numbers.
3. Implement C program to check whether a person is eligible for voting or not?
4. Implement C program to read marks and print percentage and division.
5. Implement C program to convert temperature from Fahrenheit to Celsius and vice versa.

6. Implement C program to check given number is divisible by A and B.
7. Implement C program to calculate profit or loss.
8. Implement C program to calculate the distance between two cities from kilometers to meters, centimeters, feet and inches.
9. Implement C program to find the GCD (Greatest Common Divisor) of two integers.
10. Implement C program to find the LCM (Lowest Common Multiple) of two integers.
11. Implement C program to read the height of a person and the print person is taller, dwarf, or average height person.

Experiment-III (using Switch Case)

1. Implement C program to read the grade of student print equivalent description.
2. Implement C program to read weekday number and print weekday name.
3. Implement C program to check whether a character is VOWEL or CONSONANT.
4. Implement C program to design calculator with basic operations.
5. Implement C program to find number of days in a month.

Experiment-IV (using while, do while)

Using while, do while

1. Implement C program to print ODD numbers from 1 to N using while loop.
2. Implement C program to print EVEN numbers from 1 to N using while loop.
3. Implement C Program to find sum of first N natural number, N must be taken by the user.
4. Implement C program to print all uppercase alphabets using while loop.
5. Implement C program to print all lowercase alphabets using while loop.
6. Implement C program to read an integer and print its multiplication table.
7. Implement C Program to print tables from numbers 1 to 20.
8. Implement C Program to find factorial of a number.
9. Implement C program to print all prime numbers from 1 to N.
10. Implement C program to print all Armstrong numbers from 1 to N.
11. Implement C program to print square, cube and square root of all numbers from 1 to N.
12. Implement C program to print all leap years from 1 to N.
13. Implement C programs for following series:
 - a. $1+2+3+4+...N$
 - b. $1^2+2^2+3^2+4^2+...N^2$
 - c. $1/1! + 2/2! + 3/3! + 4/4! + ... N/N!$
 - d. $1 + 1/2 + 1/3 + 1/4 + 1/5 + ... 1/N$
 - e. $1 + 3^2/3^3 + 5^2/5^3 + 7^2/7^3 + ...$ till N terms
14. Implement C program to calculate the sum of the series $1-2+3-4+5-6+7-8...N$ terms.
15. Implement C program to calculate the sum of the series $1+(1+2) + (1+2+3) + (1+2+3+4) + ... + (1+2+3+...+n)$.
16. Implement C programs for $\sin(x)$ and $\cos(x)$ series.
17. Implement C program to find the sum of series $1^2/1! + 2^2/2! + 3^2/3! + 4^2/4! + ... n^2/n!$.
18. Implement C program to find the sum of series $1.2/3 + 2.3/4 + 3.4/5 + 4.5/6 + ... + n(n+1)/(n+2)$.
19. Implement C program to find the sum of series $x + x/2! + x/4! + ... + x/n!$.

20. Implement C program to calculate the sum of the series $1^3 - 2^3 + 3^3 - 4^3 + \dots + N^3$.
21. Implement C program to calculate the sum of series $1 + 1/x^1 + 1/x^2 + 1/x^3 \dots + 1/x^n$ terms.
22. Implement C program to calculate sum of the series $1 + 11 + 111 + 1111 + \dots + N$ terms.
23. Implement C program to find the sum of following series:
 - a. Arithmetic Progression (A.P.) series
 - b. Geometric Progression (G.P.) series
 - c. Harmonic Progression (H.P.) series
24. Implement C program to print Floyd's triangle.

Using For loop

1. **Implement C program to print following Pyramid:**

```
*
**
***
****
*****
*****
```

2. **Implement C program to print following Pyramid:**

```
*****
****
***
**
*
```

3. **Implement C program to print following Pyramid:**

```
*
* *
* * *
* * * *
* * * * *
```

4. **Implement C program to print following Pyramid:**

```
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * *
* * *
* *
```

5. **Implement C program to print following Pyramid:**

```
*****
****  ****
***   ***
**    **
*     *
```

6. **Implement C program to print following Pyramid:**

```
0    0
01   01
010  010
0101 0101
0101001010
```

7. **Implement C program to print following Pyramid:**

```
1
123
12345
1234567
123456789
```

8. **C program to print following pyramid**

```
1A2B3C4D5E
1A2B3C4D
1A2B3C
1A2B
1A
```

9.

Experiment-V (using 1-D array & 2-D array)

Using 1-D array

1. Implement C program to calculate Sum, Product of all elements.
2. Implement C program to find Smallest and Largest elements.
3. Implement C program to replace all EVEN elements by 0 and Odd by 1.
4. Implement C program to find a number from array elements.
5. Implement C program to reverse array element.
6. Implement C program to swap adjacent elements of a one dimensional array.
7. Implement C program to find occurrence of an element in one dimensional array.
8. Implement C program to find the missing number in the array using the bitwise XOR operator.
9. Implement C program to segregate 1's and 0's in 1-D array.
10. Implement C program to print the square of array elements

Using 2-D array

1. Implement C Program to find sum and subtraction of two matrices.
2. Implement C Program to transpose a matrix.
3. Implement C Program to read a matrix and print diagonals.
4. Implement C Program to find sum of all elements of each row of a matrix.
5. Implement C Program to print lower diagonal of a matrix.
6. Implement C program to check a given matrix is a sparse matrix or not.
7. Implement C program to interchange the rows in the matrix.
8. Implement C program to interchange the columns in the matrix.
9. Implement C program to arrange row elements in ascending order.
10. Implement C program to arrange column elements in ascending order.

11. Implement C program to find the sum of main and opposite diagonal elements of a matrix.
12. Implement C program to find the normal of a matrix.
13. Implement C program to find the trace of matrix.
14. Implement C program to print the upper triangular matrix and lower triangular matrix.
15. Implement C Program to find multiplication of two matrices.

Experiment-VI (using structure)

1. Implement C program to create, declare and initialize structure.
2. Implement C program to read and print an employee's detail using structure.
3. Implement C program to declare, initialize an union, example of union.
4. Implement C program to demonstrate example of structure of array.
5. Implement C program for passing structures as function arguments and returning a structure from a function.

Experiment-VII (using pointers)

1. Design a program to create, initialize, assign and access a pointer variable.
2. Design a program to swap two numbers using pointers.
3. Implement a program to count vowels and consonants in a string using pointer.
4. Implement a program to demonstrate example of array of pointers.
5. Program to read and print student details using structure pointer, demonstrate example of structure with pointer.