



Loop Exercises

- Write a program to read 10 numbers from keyboard and find their sum and average
- Write a program to display the n terms of even natural number and their sum
- Write a program to input a number from user and find Prime factors of the given number using loop.
- Write a program to display the number in reverse order.
- Write a program to check whether a number is a palindrome or not
- Write a C program to check whether a given number is an Armstrong number or not
- Write a program to calculate the factorial of a given number
- Write a program to display the first n terms of Fibonacci series.
- Write a program to find HCF (Highest Common Factor) of two numbers.

Test Data:

Input 1st number for HCF: 24
Input 2nd number for HCF: 28
Expected Output:
HCF of 24 and 28 is: 4



- Write a program in C to find the sum of the series

[$1 - X^2/2! + X^4/4! - \dots$].

Test Data:

Input the Value of x :2

Input the number of terms: 5

Expected Output:

the sum = -0.415873

- Write a program to find LCM of any two numbers using HCF.

Test Data:

Input 1st number for LCM: 15

Input 2nd number for LCM: 20

Expected Output:

The LCM of 15 and 20 is: 60

- Write a program in C to display the n terms of harmonic series and their sum.

$1 + 1/2 + 1/3 + 1/4 + 1/5 \dots 1/n$ terms

- Write a program to display the sum of the series [9 + 99 + 999 + 9999 ...]

- Enter any no and add the even and odd digits from it separately

24385 ==> 5 + 3 = 8

8 + 4 + 2 = 14

- WAP to generate the max number using the digits of entered number

4936 --> 9643



- Write a program to determine whether a given number is prime or not
- Write a program to find the prime numbers within a range of numbers
- Check whether a number can be express as sum of two prime numbers

- Write a program to print all Strong numbers between 1 to n.

If sum of factorial of digits is equal to original number, then it is Strong number

e.g., 145

- Write program to find the Armstrong number for a given range of number.
- Write a program to check whether a given number is a perfect number or not.
- Write a program to find the perfect numbers within a given number of ranges
- Write a program to input a number from user and find Prime factors of the given number using loop.
- Enter the number and add the alternate digit from it.

no=28416 ==> $6+4+2 = 12$

$1+8 = 9$



- Write a Program to display the pattern like pyramid using the alphabet.

```
A
A B A
A B C B A
A B C D C B A
```

- Write a program to print the Floyd's Triangle.

```
1
01
101
0101
10101
1010101
```



Write a program to display Pascal's triangle.

Test Data:

Input number of rows: 5

Expected Output:

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
```

- Write a to display the pattern like pyramid using the alphabet.

```
A
A B A
A B C B A
A B C D C B A
```



- Write a program in C to display the pattern like a diamond.

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

- Write a to print hollow pyramid or hollow equilateral triangle star pattern series using for loop.