

Assignment 5

[04.01.2021 – Monday – Lab 5]

Common to All Students:

Write a C Program for the following problem statements

1. find the sum of first 10 natural numbers. (Using for loop)
2. display the multiplication table of a given integer (Using while loop)
3. display the n terms of odd natural number and their sum (Using do...while loop)
4. display the pattern like right angle triangles. (Using for loop)

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

5. display the pattern like right angle triangles. (Using while loop)

```
1  
2 3  
4 5 6  
7 8 9 10
```

6. make such a pattern like a pyramid with numbers (Using do...while loop)

```
1  
2 3  
4 5 6  
7 8 9 10
```

7. display Pascal's triangle. (Using for loop)

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

8. display the first n terms of Fibonacci series. (Using for loop)
9. check whether a given number is a perfect number or not. (Using while loop)
10. find the Armstrong number for a given range of number. (Using while loop)
11. determine whether a given number is prime or not. (Using do...while loop)

12. display the number in reverse order. (Using do...while loop)
13. display the sum of the series [$9 + 99 + 999 + 9999 \dots$] (Using for loop)
14. find the sum of the series [$1 - X^2/2! + X^4/4! - \dots$]. (Using while loop)
15. find the sum of the series [$x - x^3 + x^5 + \dots$]. (Using do...while loop)

Practice Questions [Optional]:

Write a C Program for the following problem statements

16. display the n terms of even natural number and their sum.
17. display n terms of natural number and their sum.
18. display the pattern like a diamond.

```

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

19. display the pattern like right angle triangle with a number.

```

1
22
333
4444
```

20. calculate the factorial of a given number.
21. find the perfect numbers within a given number of range.
22. check whether a given number is an armstrong number or not.
23. find the prime numbers within a range of numbers.
24. check whether a number is a palindrome or not.
25. find HCF (Highest Common Factor) of two numbers.
26. find LCM of any two numbers using HCF.
27. Check Whether a Number can be Express as Sum of Two Prime Numbers.

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28. find the number and sum of all integer between 100 and 200 which are divisible by 9.
29. display the sum of the series [$9 + 99 + 999 + 9999 \dots$]
30. display the sum of the series [$1+x+x^2/2!+x^3/3!+\dots$].
