Meerut Institute of Technology, Professional Courses, Meerut (1110)

Department of Computer Application (BCA)

Subject: Programming Principle & Algorithm **Subject Code: BCA-107**

Semester: BCA I Sem **Session: 2021-22**

Lab Program List

1. Write a c program to print “Hello World”.
2. Write a c program to add two numbers.
3. Write a c program to multiply two float numbers.
4. Write a c program to perform arithmetic operation (+, -, *, /) on two integer number.
5. The distance between two cities (in km.) is input through the keyboard. Write a c program to convert and print this distance in meters, feet, inches and centimetres.
6. Write a c program to calculate the area and circumference of the circle.
7. Write a c program to interchange the value of two variables using third variable.
8. Write a c program to interchange the value of two variables without using third variable.
9. Write a c program to calculate simple interest.
10. Write a c program to check whether input number is positive or negative.
11. Write a c program to check whether input number is even or odd.
12. Any year is input through the keyboard. Write a c program to determine whether the year is a leap year or not.
13. Write a c program to find maximum of two numbers.
14. Write a c program to find maximum of three numbers using nested if-else.
15. Any character is entered through the keyboard, write a program to determine whether the character entered is a capital letter, a small case letter, a digit or a special symbol.
16. Write a c program to print table of any number.
17. Write a c program to find the factorial value of any number entered through the keyboard.
18. Two numbers are entered through the keyboard. Write a c program to find the value of one number raised to the power of another.
19. If a number is input through the keyboard, write a c program to calculate the sum of its digits.
20. If a number is input through the keyboard, write a c program to reverse the number.
21. Write a c program to calculate sum of first n numbers.
22. Write a c program to calculate sum of given n numbers.

23. Write a c program to determine whether a number is prime or not. A prime number is one, which is divisible only by 1 or itself.
24. Write a c program to print out all Armstrong numbers between 1 and 500. If sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number.
25. Write a c program to determine whether a number is palindrome or not.
26. Write a c program to find the binary equivalent of the entered number.
27. Write a c program to add first seven terms of the following series:
    $\frac{1}{1!}+\frac{2}{2!}+\frac{3}{3!}+\cdots$
28. Write a c program to calculate the value of sine series.
29. Write a c program to calculate the value of cosine series.
30. Write a c program to find ${}^{n}C_{r}$ factor of given number.
31. Write a c program to print all factors of a number.
32. Write a c program to print Fibonacci sequence. In a Fibonacci sequence the sum of two successive terms gives the third term. Following are the first few terms of the Fibonacci sequence:
    0 1 1 2 3 5 8 13 21 34 55 89.....
33. Write a c program to print following pattern:
    ```
    *
    **
    ***
    ****
    *****
    ```
34. Write a c program to print following pattern:
    ```
            1
        2       3
    4       5       6
7       8       9       10
    ```
35. Write a c program to print Pascal triangle.
36. Write a menu driven program which has following options:
    1. Factorial of a number.
    2. Prime or not
    3. Odd or even
    4. Exit
37. Write a c program to find GCD of two numbers.
38. Write a c program to calculate area of circle using call by value.
39. Write a c program for swapping two numbers using call by reference.
40. Write a c program to calculate the factorial of a number using recursion.