Experiment 1

Aim: PYTHON FUNDAMENTALS- MATHS, FUNCTION, CONDITIONALS, AND LOOPS

Objectives:

1. Write a program to create a menu with the following options
    1. TO PERFORM ADDITITON
    2. TO PERFORM SUBTRACTION
    3. TO PERFORM MULTIPICATION
    4. TO PERFORM DIVISION
    5. TO PERFORM exponent(x, y)
    6 - TO PERFORM tan(x)
    7 - TO PERFORM sin(x)
    8 - TO PERFORM cos(x)
    9 - TO PERFORM factorial(x)
    10 - TO PERFORM log(x)
    Accepts user input and operate accordingly. Use functions with arguments.

2. Write a program to print 'n' terms of Fibonacci series of numbers.

3. Assume that there are two numbers, x and y, whose values to be read from the keyboard, and print the following outputs based on the values of x and y.
    case 1: If both are equal, then the output is : Both numbers are equal.
    case 2: If first number is smaller than second one, then the output is: First Number is Less than Second Number.
    case 3: If the first number is greater than second number, then the output is : First Number Greater than Second Number.

4. Write a program to print the pattern

     A
     A B
    A B C
    A B C D
     A B C D E
    A B C D E F
    A B C D E F G
     A B C D E F G H
    A B C D E F G H I
    A B C D E F G H I J

5. Write a program to print the pattern
    1 1 1 1 1 1 1 1 1 1
    2 2 2 2 2 2 2 2 2
    3 3 3 3 3 3 3 3
    4 4 4 4 4 4 4
    5 5 5 5 5 5
    6 6 6 6 6
    7 7 7 7
    8 8 8
     9 9
    10

6. A cashier has currency notes of denominations 10, 50, and 100. If the amount to be withdrawn is input through the keyboard in hundreds. Write a Python program to find the

total number of currency notes of each denomination the cashier will have to give to the withdrawer.

7. Write a Python program to compute the GCD of two numbers

8. Write a program to calculate overtime pay of 10 employees. Overtime is paid at the rate of Rs. 12.00 per hour for every hour worked above 40 hours. Assume that employees do not work for fractional part of an hour.

9. A library charges a fine for every book returned late. For first five days, the fine is 50 paise, for 6 to 10 days fine is one rupee, and above 10 days fine is five rupees. If you return the book after 30 days your membership will be cancelled. Write a Python program to accept the number of days the member is late to return the book and display the fine or the appropriate message

10. Write a Python program that prompts the user to enter the month and year and displays the number of days in the month.

Post lab:

    i)   Write a program to find smallest of given 2 numbers?

    ii)   Write a Python program to compute the GCD of two numbers

    iii)   Python program to find all prime numbers within a given range