FYBCA-SEM2-204 – Programming Skills (PS)
Practical sheet 1

Unit-1-Practical Problems

Multidimensional Array

1. Write a Menu base C program with following options.
    1. Addition of two Matrices.
    2. Subtraction of two Matrices.
    3. Multiplication of two Matrices.
    4. Transpose of Single Matrix.
    5. Exit.
2. Write C program to count total duplicate elements in an array.
3. Write C program to check matrix is an identity matrix example.
4. Write C program to find sum of each column in a matrix.
5. Write C program to find sum of each row in a matrix.
6. Write C program to check two matrices are equal or not.
7. Write C program to find lower triangle matrix.
8. Write C program to find upper triangle matrix.
9. Write C program to find sum of each row and column of a matrix.

10	20	30	60
40	50	60	150
70	80	90	240
120	150	180	

User defined Function

1. Write C Program to find area of rectangle using User defined Function.
2. Write C Program to find perimeter of rectangle using User defined Function.
3. Write C program to find area of a triangle using User defined Function.
4. Write C Program to find diameter, circumference and area of circle using User defined Function.
5. Write C program to convert centimeter to meter and kilometer using User defined Function.
6. Write C program to convert temperature from degree Celsius to Fahrenheit using UDF.
7. Write C Program to calculate simple interest using User defined Function.
8. Write C Program to find power of a number using User defined Function.(without pow())
9. Write C Program to find cube using function using User defined Function.
10. Write C program to check the given string is palindrome or not using UDF.
11. Write C Program to convert decimal number to binary number using the UDF.
12. Write C Program to get largest element of an array using the UDF.
13. Write C Program to find maximum and minimum element in array using UDF.
14. Write C program to sort numeric array in ascending or descending order using UDF.
15. Write C program to search element in an array using User define Function.
16. Write C program Menu base Calculator using UDF.
17. Write Menu base C Program with following option using UDF.
    1. To check given number is Prime or not
    2. To check given number is Armstrong or not.
    3. To check given number Perfect or not.
    4. Exit
18. Write C Program to find Sum of Series $1^2+2^2+3^2+…..+n^2$ Using Recursion in C.

FYBCA-SEM2-204 – Programming Skills (PS)
Practical sheet2
Unit 2 & 3 Practical Problems

Do the following Practice programmes in Python Programming.

1. Write a python program to display an average of 3 inputted numbers.
2. Write a python program to calculate simple interest for a given principle amount, rate of interest and no of years.
3. Write a python program to display area of triangle.
4. Write a python program to calculate area of circle.
5. Write a python program to calculate area of rectangle.
6. Write a python program to check whether inputted no is positive or negative.
7. Write a python program to check whether inputted no is divided by 9 or not?
8. Write a python program to check whether given no is odd or even?
9. Write a python program to display Y^{th} power of X.
10. Write a python function that converts inches to centimeters.
11. Write a python function to check given inputted year is leap year or not.
12. Write a python function which accept temperature in Celsius and convert into Fahrenheit.   **F= (C * (9/5)) + 32**
13. Write a python function which accept Fahrenheit and convert into Celsius.
        C= (F-32) * 5 / 9

14. Write a python function to display minimum number from three given numbers.
15. Write a python function to display maximum number from three given numbers.
16. Write a python program to display reverse number. E.g. I/P =>1234 O/P => 4321
17. Write a python program to check whether the entered alphabet is vowel or consonant.
18. Write a python program to print first 10 natural numbers and its sum and average.
19. Write a python program to count the Number of Digits. E.g. I/P =>1234 O/P => 4
20. Write a python program to print factorial of n using while loop.
21. Write a python function to calculate the sum of digits of the entered number.
22. Write a python program to check whether the number is palindrome or not.
23. Write a python function to check whether the entered number is Prime or not.
24. Write a python program to Fibonacci series of n numbers using while loop.
25. Write a python function to check whether the entered number is Armstrong or not.
26. Write a python program to count characters in the entered string.
27. Write a python program to create choice based menu for calculator operations. (if…elif)
28. Write a python program to input cost price and selling price of a product and check profit or loss. Also calculate total profit or loss using if else.

> **HINT:** If cost price is greater than selling price then there is a loss otherwise profit.
>
> Formula to calculate profit and loss
> Profit = S.P - C.P (Where S.P is Selling Price and C.P is Cost Price)
> Loss = C.P - S.P

29. Write a Python program to calculate Compound Interest.
     Formula to calculate compound interest annually is given by.

$$CI = P\left(1 + \frac{R}{100}\right)^{T}$$

Where,   P is principle amount

30. Write a python program to generate mark sheet of Student and display appropriate result as follows:

Percentage	Result
>=70	Distinction
>=60	First Class
>=50	Second Class
>=35	Pass Class
<35	Fail