

Practical sheet1**Unit-1- C 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 is 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.
19. Write a C program that creates structure Employee with id, name and salary. Enter data of five employees. Display data of those employees whose salary is less than 15000. (APRIL-2022)

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20. Create a C structure, volume with fields: liter and millilitre. Read the value of two volumes and add them, if the value of millilitre is more than 1000 then add it to liter value. (APRIL-2022)

Practicalsheet2

Do the following Practice programmes in Python Programming.

1. Write a program to display an average of 3 inputted numbers.
2. Write a program to calculate simple interest for a given principle amount, rate of interest and no of years.
3. Write a program to display area of triangle.
4. Write a program to calculate area of circle.
5. Write a program to calculate area of rectangle.
6. Write a program to check whether inputted no is positive or negative.
7. Write a Python program to check whether a number is divisible by 5 and 11 or not.
8. Write a program to check whether given no is odd or even?
9. Write a program to display Y^{th} power of X.
10. Write a python function that converts inches to centimetres.
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 program to display reverse number. E.g. I/P =>1234 O/P => 4321
17. Write a program to check whether the entered alphabet is vowel or consonant.
18. Write a program to print first 10 natural numbers and its sum and average.
19. Write a Program to count the Number of Digits. E.g. I/P =>1234 O/P => 4
20. Write a 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 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 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 program to count characters in the entered string.
27. Write a program to create choice based menu for calculator operations. (if...elif)
28. Write a 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 program to generate mark sheet of Student and display appropriate result as follows:

FYBCA-SEM2-204 – Programming Skills**Percentage Result**

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

31. Write a Python program to find maximum between two numbers.
32. Write a Python program to find maximum between three numbers.
33. Write a Python program to check whether a character is alphabet or not.
34. Write a Python program to input any character and check whether it is alphabet, digit or special character.
35. Write a Python program to check whether a character is uppercase or lowercase alphabet.
36. Write a Python program to input week number and print week day.
37. Write a Python program to input month number and print number of days in that month.
38. Write a Python program to count total number of notes in given amount.
39. Write a Python program to input angles of a triangle and check whether triangle is valid or not.
40. Write a Python program to input all sides of a triangle and check whether triangle is valid or not.
41. Write a Python program to check whether the triangle is equilateral, isosceles or scalene triangle.
42. Write a Python program to find all roots of a quadratic equation.
43. Write a Python program to input marks of five subjects Physics, Chemistry, Biology, Mathematics and Computer. Calculate percentage and grade according to following:
Percentage >= 90% : Grade A
Percentage >= 80% : Grade B
Percentage >= 70% : Grade C
Percentage >= 60% : Grade D
Percentage >= 40% : Grade E
Percentage < 40% : Grade F
44. Write a Python program to input basic salary of an employee and calculate its Gross salary according to following:
Basic Salary <= 10000 : HRA = 20%, DA = 80%
Basic Salary <= 20000 : HRA = 25%, DA = 90%
Basic Salary > 20000 : HRA = 30%, DA = 95%
45. Write a Python program to input electricity unit charges and calculate total electricity bill according to the given condition:
For first 50 units Rs. 0.50/unit
For next 100 units Rs. 0.75/unit
For next 100 units Rs. 1.20/unit
For unit above 250 Rs. 1.50/unit
An additional surcharge of 20% is added to the bill
46. Write a Python program to get choice from the user for the currency conversion. For example, we have taken four currencies those are Rupee, Dollar, Pound and Euro. Following are the Choices:
[1] Rupee Conversion
[2] Dollar Conversion
[3] Pound Conversion
[4] Euro Conversion