Basic Programs

1. Write a program to print Hello World on output screen.
2. WAP to calculate Simple interest.
3. WAP to calculate area of rectangle
4. WAP to convert Fahrenheit temp in degree Celsius.
5. WAP to demonstrate arithmetic operation on two integer numbers.
6. Write a program which will accept three integer numbers from user and find out greatest among them using conditional operator.
7. Accept two numbers and perform swapping with third variable.
8. WAP to accept five subject marks and find out total and average of the marks.
9. WAP which calculate speed for time and distance.

   Speed=(distance/time)
10. WAP to find out perimeter of the Square and Rectangle.

    Perimeter of square=sum of all four sides

    Perimeter of Rectangle=2*(l+b)

Selection statement

1. WAP to check whether a number is even or odd

2 . WAP to check whether a person is eligible for voting or not.

3. WAP to accept Cost Price from user and ask whether the user is a student or not. If the user is student and cost price is greater than 500, give discount of 10% ELSE discount will be 5%. If user is not student and cost price is greater 500 then give discount of 8% ELSE discount will be 2%. (Take all inputs from USER)

4. WAP to check whether Number is positive or negative or ZERO.

5. WAP a program to accept Percentage from user and check the GRADE

   A. Above 70% - Grade A

   B. Between 60% to 70% - Grade B+.

   C. Between 45% to 60% - Grade B.

   D. Between 35% to 45% - Grade C.

   E. Less than 35% - Fail

6.Accept three numbers from user and find out largest number among three and also find out whether that three numbers are equal or not.(else if ladder)

Branching statement

1. WAP using following menus-

   Choice-1: Accept number and find out square and cube.

   Choice-2: Check whether the given year is LEAP or not.

   If user enters wrong choice appropriate message should get displayed.

2. WAP using switch case for arithmetic operation on two numbers, if user enters an operator as choice, the appropriate operation should perform.

   If user enters wrong choice appropriate message should get displayed.

   i.e. + is for addition

   - is for subtraction

Looping statements

1. WAP to check whether a number is prime or not.
2. WAP to accept a number from user and find out sum of even digits from that given number.
3. WAP to print the following pattern :

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

4. WAP to print the following pattern :

a)
```
1
2 2
3 3 3
```

b)
```
A
A B
A B C
```

5. WAP to print the following on output screen using jumping statements

```
1   5
2   4
4   2
5   1
```

6. WAP to find the factorial of a number.

7. WAP to create a simple calculator for addition, subtraction, multiplication and division using switch case (Menu driven programming). If user enters operator as choice as follows

a) + for Addition
b) – for Subtraction
c) * for Multiplication
d) / for Division

If user enters wrong choice appropriate message should be displayed.

Functions

1. WAP to demonstrate all four categories of functions for volume of the cylinder (volume of cylinder: 3.14*r*r*h)
   a) Function without parameters without return value.
   b) Function with parameter without return value.
   c) Function without parameter with return value.
   d) Function with parameters with return value.

2. WAP to calculate factorial of a number using a function.
3. WAP to print Fibonacci series.
4. WAP to check whether a number is Armstrong number.
5. WAP to check whether a number is palindrome.

Pointers

1. Write a program that declares a double, an int, and char variables. Next declare and initialize a pointer to each of the three variables. Your program should then print the address of, and value stored in.
2. Demonstrate addition of two floating type numbers by using call by address.
3. Demonstrate pointer arithmetic by assigning pointer “ptr” to variable “a” which is having value as 100 in it.Perform increment operation on pointer ptr like ptr=ptr+2 and display which address that pointer ptr hold.

Array

1) WAP to calculate average marks of a 10 students.

2) WAP to sort array in ascending order.

3) WAP to find greatest number in an array.

4) WAP to find smallest number in an array.

5) WAP to multiply a 3*3 matrix.

6) Write a C program to compute sum of diagonal elements of a 2D array of size 3*3

7) Write a program to search particular value in an array and return the index number where it is located.

8) Perform following operations on two matrices with order m*n and p*q.

1. Addition of two matrix
2. Multiplication of two matrix

String

1. WAP to compare two strings using strcmp ().
2. WAP to concatenate two strings without using library function.
3. WAP to convert upper-case string into lower-case and vice versa .Write your own functions for the same.
4. Find a sub string in a string without using library function.
5. Write a C program to input any character and check whether it is alphabet, digit or special character.
6. WAP to check a string is palindrome.(Example Wow,bob,radar,sagas..etc).
7. WAP to count no of blank spaces in your paragraph without using string function and write it in your own function.
8. WAP to reverse the following sentence without using library function.

   “I am studying in profound Edutech”.

9. WAP to show all possible library function for reading and writing String .

Dynamic Memory Allocation

1. Write a program to create memory for int, char and float variable at run time.

2. Write a program to input and print text using Dynamic Memory Allocation.

3. Write a program to read a one dimensional array, print sum of all elements along with inputted array elements using Dynamic Memory Allocation.

4. Write a program to read and print the student details using structure and Dynamic Memory Allocation.

5. Write a program to read and print the N student details using structure and Dynamic Memory Allocation.

File Handling

1. Write a program to read name and marks of n number of students from user and store them in a file.

2. Write a program to read name and marks of n number of students from user and store them in a file. If the file previously exits, add the information of n students.

3. Write a program to write all the members of an array of structures to a file using fprintf(). Read the array from the file and display on the screen.

4. Write to a text file using fprintf()

5. Write a Program to Append the Content of File at the end of Another.

6. Write a Program to Capitalize First Letter of every Word in a File

7. Write a Program to Count No of Lines, Blank Lines, Comments in a para in a file

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Structure and Union

1) Create a structure Student. Create array of 10 students using MACRO and display data in tabular form.
2) Create a structure Employee. Accept data for 5 employees and display it.
3) Demonstrate use of union and find out size of union variable and the attributes from union.
4) WAP to demonstrate typedef keyword.
5) WAP to copy one structure into another. Use concept of nested structures.
    a. Create Employee structure having attributes as id, name and basic salary.
    b. Create Date structure having attributes as dd,mm,yy.
    c. Nest Date structure into Employee as to display joining date of employee.
6) Create a structure Employee. Pass it to a function by value.