Revised MCA Assignment Sheet-3 (Functions, Pointers, Structures and Files)

1.a) Write a program which will accept an array, and find minimum and maximum values. Do not sort the array.

b) Write a function to sort a list of integers. Use this function in the function main()

2. Write only one function Vowel_Cons_Count() to count the number of vowels & consonants in a line of text. Do not print anything from inside the function. Use the function Vowel_Cons_Count() in main() and print the number of vowels & consonants.

3. a) Write three functions -(1) a function to read a matrix (II) A function to multiply two matrices and (III) a function to print a matrix. Use these three functions to multiply two matrices given as input. If multiplication is not possible, print a message.

b) Write a function which will accept a matrix and transpose it. Use this function in the function main().

4. Write a menu driven program, consisting of following functions (on string).

Strlen()
Strcpy()
Strcat()
Strrev()
Strcmp()

9.Write a recursive function for each of the following problems

a) to generate Fibonacci number.
b) to find the factorial of any number.

10.Write a function to convert a decimal number to any other base given by the user.

11. Write a program to find average and median of a list of numbers. Use dynamic memory allocation for storing the numbers.

12. Define a structure to store following information of a student: name ,roll number, marks. Write a program to read information about more than 100 students, and sort the student names based on the marks obtained.

13.Define a structure for representing a complex number. Write a menu driven program that will ask for two complex numbers, and option for the operation to be performed, and print the result. Consider the following operations in the menu: a) addition of two complex number b) subtracting two complex numbers c) multiplying two complex numbers.

14. Write a program to create a linked list where each node contains an integer value and a link.

15. Write a program to create a file in binary mode with student information(name, roll, marks) and print the information for a student whose roll number is given as input.

16. Write a program that will read the contents (any string) of a file and converts each character from lowercase to uppercase and write to another file.

17. Write a program to merge the contents of two files to create a new file of merged contents.

18. Write a program "filecopy.c" to copy one file to another file. Design the program in such a way that it can accept command line arguments.

19. Define a union and a structure to store salary (float type) and employee id(integer type) of an employee. Initialize them with some values of your choice. Now use *sizeof* operator to check which one will take the maximum memory to store information.

20. Write a function which will accept a structure for customer record(account number and balance) and update balance by 10% increment and return the updated customer information. Use this function in the function main().