

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MASTER OF COMPUTER APPLICATION

### SEMESTER: II

Subject Name: **Fundamentals of Programming - II**

Subject Code: **3620001**

#### **Practical List**

#### **A. List of Practical Related to FOP-2:**

##### **Part A: Pointers**

1. Write a program to printing addresses of variable, 1D array, 2D array and function.
2. Write a program to swap elements using pointer with the help of user define function.
3. Write a program to perform any sorting method on string using pointer.
4. Write a program to read, print and addition of two Matrices using pointer and user define functions.
5. Write a program find substring of given string using pointer and user define function.
6. Write a program in C to find whether the given string is palindrome or not using pointer and user define function.
7. Write a program in C to concatenate two strings using pointer and user define function.
8. Write a function to calculate the roots of the quadratic equation. The function must use two pointer parameters for sending roots to its calling function and three parameters for coefficients a, b, and c.
9. Write a function using pointers to add two matrices and to return the resultant matrix to the calling function.

##### **Part B:**

10. Define a structure called cricket that will describe the following information:
  - a. Player name
  - b. Team name
  - c. Batting average
11. Using cricket, declare an array player with 50 elements and wire a program to read the information about all the 50 players and print a team-wise list containing names of player with their batting average.
12. In a program declare following structure member: name, code, age, weight and height. Read all members of the structure for 100 persons and find list of persons with all related data whose weight > 50 and height > 40 and print the same with suitable format and title.
13. Write a function using pointers to multiply two matrices and to return the resultant matrix to the calling function( The size of array should be dynamic).

##### **Part C: Files:**

14. Write a program to Read and write in to text file (Character by character).
15. Write a program to read n integer number from keyboard and store them into a file All.txt. Read All.txt file, separate even and odd numbers and store them into files Even.txt and Odd.txt respectively and display contents of all the three files.
16. Read n number from keyboard, store them in file Unsort.txt.Sort all the contents of Unsort.txt and store into Sort.txt and display contents of both these files.
17. Two files Data1.txt and Data2.txt contains sorted list of integers. Generate third file that holds a single sorted, merged list of these two files using Merge Sort
18. Read a text file which name is given in command line and print the total number of character in each line and total number of lines in a file.
19. Write a program to accept the contents from the user and store it in the file one line at a time and print the contents of the file.

20. Write a program to create copy command of DOS.
21. Write a program to find the first occurrence of a string in a file and display the line.
22. Write a program to find the number of occurrences of a string in a file and display all the lines, which contains the string.
23. Write a program to edit a given line of the file when the line number is given by the user.
24. Write a program to delete a given line of the file when the line number is given by the user.
25. Write a program to add a line into the file.
26. Write a program to insert a line before another line identified by the line number in the file.
27. Write a program to
  - a) count the number of characters in the file.
  - b) count the number of words in the file
  - c) count the number of lines in the file.
28. Write a program to merge two files into the third file.
29. Write a program to create a log file. Accept the username and password from the user if they are correct congratulate them otherwise display the message illegal entry.
30. To open one file called DATA stores 10 integer number in it, find maximum number from that and store in another file called MAX and display it on screen.
31. Program for deleting the spaces from the contents of file.

#### **Part D: Link Lists**

32. Create a linked list using structure having data and \*next as members and implement following functionality. 1)AddAtLast() 2) AddAtBeginning () 3) Delete() 4) Sort()
33. Create a doubly linked list using structure having data and \*next as members and implement following functionality 1)AddAtLast() 2) AddAtBeginning () 3) Delete() 4) Sort()
34. Write a program to create linear linked list interactively and print out the list and total number of items in the list.

#### **Part E: Advanced:**

35. Write a program to read data from keyboard, write it to a file named STUDENT again read the same data from STUDENT file and write it into DATA file. Same data should be displayed on the screen.
36. Write a program to read data from keyboard, write it to a file named STUDENT again read the same data from STUDENT file and write it into DATA file. Same data should be displayed on the screen.
37. Write a program to read a text file "Small.txt", containing only small letters and copy it to another file "Capital.txt" after Converting all the small letters of "Small.txt" into capital letters. The names of both of the files are passed using command line arguments.
38. Write a program to read a text file "Salary.txt" and generate Salary Slip.  
Structure: EmpNo,Name, Basic,DA,HRA,CONV,MED
39. Write a program to read a text file "Result.txt" and generate Marksheet Slip.  
Structure: RollNo,Name, Mark1,Mark2,Mark3