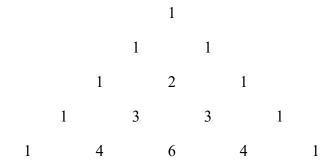
## **Arrays**

- 1. To search an element in an array using
  - i. Linear Search
  - ii. Binary Search.
- 2. To sort array in ascending/descending order
- 3. To find transpose of a matrix without using another matrix
- 4. To find transpose of a matrix with using another matrix
- 5. To print array in reverse using pointers and function (Expt 23)
- 6. To print pascal triangle (program should ask no of lines to user)



- 7. WAP to check whether entered matrix is symmetric or not
- 8. To find norm of a square matrix
- 9. To find trace of a square matrix
- 10. Write a program to perform addition of two matrices using user defined functions:
  - a. read matrix() b. print matrix() c. add matrix()
  - b. Print all three matrices.

## Strings

- 11. WAP to count no of vowels, consonants, digits, spaces and special characters in entered string
- 12. WAP to check whether entered string is palindrome or not
- 13. WAP using user defined functions xstrlen, xstrcmp, xstrcpy, xstrcat, xstrev. Use switch case.

## Structure

- 14. Create a structure Patient having patientID, Name and diseases as data members. Read details of 5 patients and print details of the patients with a disease 'diabetes'.
- 15. Create a structure Employee with data members' employee ID, name and salary. Write a program to sort 10 employees according to their salary (in descending order).
- 16. WAP to print names of students in ascending order of their average marks using structure student. Student structure contains following elements: Roll No, Name, marks of 3 subjects (array of int size 3), avg marks
- 17. To create a structure having following elements:
  - i. Employee code
  - ii. Employee name
  - iii. Employee salary
  - iv. Employee date of joining

WAP to read at least 10 records and display them using nested structure.

- 18. Define a structure "Hockey" consisting of following elements:
  - i. Player name
  - ii. Name of the country
  - iii. Number of matches played
  - iv. Number of goals scored

WAP to read records of N players and to prepare following lists:

- i) List prepared according to players'name
- ii) List prepared according to country's name
- iii) List prepared according to number of matches played
- iv) List prepared according to number of goals scored
- 19. Tutorial 9 question no 2

- 20. WAP to add two rational numbers using structure
- 21. WAP to add two complex numbers using structure
- 22. WAP to find distance of two points using structure

## **Functions**

- 23. Write recursive function
  - i. To compute factorial of a number
  - ii. To compute x<sup>n</sup>
  - iii. To computer gcd of two numbers using Euclid's algorithm
  - iv. To add two numbers
  - v. To multiply two numbers
  - vi. To add first n natural nos
  - vii. To add array elements of array size n
  - viii. To print binary equivalent of a number
  - ix. To print first n terms of Fibonacci series
- 24. WAP using functions and switch-case to
  - i. Decide whether entered no is odd and even.
  - ii. Entered year is leap or not
  - iii. Maximum of 3 nos using ternary operator
  - iv. Swap two nos.
  - v. To find area and perimeter of a circle given radius
  - vi. To find area and perimeter of a rectangle given length and breadth
  - vii. To find nPr and nCr using fact function
- 25. WAP to find standard deviation of n numbers inputted by user using function find\_mean(), find\_variance().