

BCA-232 Data Structures

List of programs

Chapter 4 Array

1. Find the largest element in unsorted array
2. Find second largest element in unsorted array
3. Delete duplicate elements from array
4. Array implementation
 - Insert an element
 - Delete an element
 - Display elements
5. Find an element in an array using linear search
6. Find an element in an array using binary search
7. Find the largest number in 2-D matrix
8. Transpose of matrix
9. Find the sum of diagonal elements of matrix
10. Display the following elements of square matrix:
 - Lower left triangular matrix
 - Lower right triangular matrix
 - Upper left triangular matrix
 - Upper right triangular matrix
 - Display border elements only
11. Addition of two 2-D matrices
12. Multiplication of two 2-D matrices
13. Implementation of triangular sparse matrix
14. Implementation of tridiagonal sparse matrix

Chapter 6 Stack, Queue

15. Implement stack using array
 - Push an element
 - Pop an element
 - Display all the elements
16. Implement circular queue using array
 - Insert an element
 - Delete an element
 - Display all the elements

Chapter 3 Strings

17. Search a substring in a string
18. Insert a substring in a string
19. Delete a substring from a string
20. Replace a substring with another substring

Chapter 5 Linked List

21. Find the smallest number in an array using pointers
22. Swap two numbers using function and pointers
23. Write a program to perform following operations on unsorted linked list:
 - Insert a node at the beginning of linked list
 - Insert a node at the end of linked list
 - Search a node in linked list
 - Delete a node from the linked list
 - Display values of all the nodes
24. Write a program to perform following operations on sorted linked list:
 - Insert a node in sorted linked list
 - Search a node in sorted linked list
 - Delete a node from the sorted linked list
 - Display values of all the nodes
25. Implement stack using linked list
 - Push an element
 - Pop an element
 - Display all the elements
26. Implement queue using linked list
 - Insert an element
 - Delete an element
 - Display all the elements

Chapter 9 Sorting and Searching

27. Selection sort
28. Bubble sort
29. Insertion sort