

Parul University
Faculty of IT & Computer Science
BCA/ IMCA Semester II

Subject Name: Programming Skills (DS)

NOTE: Implement all the programs in 'C'.

1. Perform following programs using array.
 - a) Search element in array.
 - b) Sort given array.
 - c) Reverse elements of array.
 - d) Addition of elements of array.
 - e) Find largest element from given array.
 - f) Find smallest element from given array.
2. Write a C program to perform following operations on strings. (Use library functions for all operations)
 - a) Find length of given string
 - b) Copy string
 - c) Compare given strings
 - d) Concatenate given strings
3. Write a program to perform the following operations on a stack.
(Implement the stack using array)
 - a) PUSH
 - b) POP
 - c) PEEP
 - d) CHANGE
4. Write a program to convert an infix arithmetic expression into postfix notation.
5. Write a program to evaluate a postfix expression.
6. Write a program to perform the following operation on a simple queue. (Implement the queue using array)
 - a) Insert an element
 - b) Remove an element
7. Write a program to perform the following operation on a circular queue.
(Implement the queue using array)
 - a) Insert an element
 - b) Remove an element
8. Write program perform the following operations on a singly linked list.
 - a) Create Linked list
 - b) Insert element at first position
 - c) Insert element at last position
 - d) Insert element in Linked list in sorted order
 - e) Delete element from Linked list
 - f) Copy Linked list
 - g) Find the sum of elements of linked list
 - h) Count number of nodes of linked list
 - i) Search given element in linked list
9. Write program to sort a given list using Selection sort.
10. Write program to sort a given list using Bubble sort.
11. Write program to sort a given list using Quick sort.
12. Write program to sort a given list using Insertion sort.

- 13.** Write program to sort a given list using Shell sort.
- 14.** Write program to search an element in a given list using Linear Search.
- 15.** Write program to search an element in a given list using Binary Search.