Practical List
B. E. Sem III (Computer Engineering)
Subject: Data Structures (3130702)
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1. Stack (CO-2)	
1.1	Implement a program for stack that performs following operations using array. (a) PUSH (b) POP (c) PEEP (d) CHANGE (e) DISPLAY
1.2	Implement a program to convert infix notation to postfix notation using stack.
1.3	Write a program to evaluate postfix expression using stack.
1.4	Write a program to implement Tower of Hanoi problem.
1.5	Identify widely used application which use stack data structure for implementation of its important feature.
2. Queue (CO-2)	
2.1	Write a program to implement QUEUE using arrays that performs following operations (a) INSERT (b) DELETE (c) DISPLAY
2.2	Write a program to implement Circular Queue using arrays that performs following operations. (a) INSERT (b) DELETE (c) DISPLAY
2.3	Identify widely used application which use Queue data structure for implementation of its important feature.
3. Singly linked list (CO-2)	
3.1	Write a menu driven program to implement following operations on the singly linked list. (a) Insert a node at the front of the linked list. (b) Insert a node at the end of the linked list. (c) Insert a node such that linked list is in ascending order.(according to info. Field) (d) Delete a first node of the linked list. (e) Delete a node before specified position. (f) Delete a node after specified position.
3.2	Write a program to implement stack using linked list.
3.3	Write a program to implement queue using linked list.
4. Doubly linked list (CO-2)	
4.1	Write a program to implement following operations on the doubly linked list. (a) Insert a node at the front of the linked list. (b) Insert a node at the end of the linked list. (c) Delete a last node of the linked list. (d) Delete a node before specified position.
5. Circular linked list (CO-2)	
5.1	Write a program to implement following operations on the circular linked list. (a) Insert a node at the end of the linked list. (b) Insert a node before specified position. (c) Delete a first node of the linked list. (d) Delete a node after specified position.
5.2	Identify widely used application which use Linked List for implementation of its important feature.
6. Tree (CO-3)	
6.1	Write a program which create binary search tree.
6.2	Implement recursive tree traversing methods inorder, preorder and postorder traversal.
6.3	Identify widely used application which use Tree data structure for implementation of its important feature. AVL Tree
7. Graph (CO-3)	
7.1	Write a program to perform BFS and DFS on given graph.

7.2	Identify widely used application which use Graph data structure for implementation of its important feature. Kruskal's algorithm for minimum spaning tree
8. Searching (CO-4)	
8.1	Write a program to implement Linear Search.
8.2	Write a program to implement Binary Search.
8.3	Identify widely used application which use Searching technique for implementation of its important feature.
9. Sorting(CO-4)	
9.1	Write a program to implement Quick Sort
9.2	Write a program to implement Merge Sort
9.3	Write a program to implement Bubble Sort
9.4	Identify widely used application which use Sorting technique for implementation of its important feature.
10. Hashing and File Structure (CO4)	
10.1	Write a program to create hash table and handle the collision using linear probing.
10.2	Write a program to demonstrate the file primitives such as fopen, fclose, fprintf.
10.3	Identify widely used application which use Hashing technique for implementation of its important feature.