



Jaypee Institute of Information Technology, Noida

Department of CSE and IT

Data Structures and Algorithms Lab (15B17CI578)

List of Experiments (Odd 2022)

1. **Arrays, Strings, Structure:** Conversion from one number system to another, Student database using arrays and structure (Menu-driven)
2. **Singular Linked Lists, Doubly Linked:** Creation, updation, searching, traversing, Cost analysis. with a single, and double Linked lists of integers;
3. **Circular Linked Lists:** Polynomial function representations, Integer manipulation in Circular linked lists, cost analysis.
4. **Stacks and Queues:** Insertion, deletion, searching, notation conversion-infix to postfix, postfix evaluation.
5. **Sorting:** Sorting integers using bubble, selection, insertion, merge, quick, counting, radix, bucket sort, Cost analysis.
6. **Searching:** Searching a given node value/position, distance finding using linear, and binary search.
7. **Binary Trees:** Creation, updation, addition, deletion, traversal, searching as per given criteria.
8. **Binary Search Tree:** Creation, updation, addition, deletion, traversal, searching as per given criteria.
9. **AVL tree:** Creation, updation, addition, deletion, traversal, searching as per given criteria.
10. **Binary Heap:** Creation (Max/Min heap), deletion, searching as per given criteria. Priority queue implementation using heap.
11. **Graphs:** Graph representations, traversal (Breadth First Search, Depth First Search), multiple path finding.
12. **Graphs:** Minimum spanning tree using Prim's and Krushkal's algorithm.
13. **Hashing, Greedy Algorithms, Dynamic Algorithm:** Hashing – collision resolution, Shortest distance, Job scheduling using Greedy algorithm, o/1 Knapsack problem.