

DATA STRUCTURES LAB

At the end of the Data Structures Lab course, the students will be able to:

1. Remember:

- Identify the basic concepts of linear and binary search algorithms.
- Recall the steps involved in the Bubble Sort Algorithm for arranging elements in ascending order.

2. Understand:

- Explain the implementation of Insertion and Selection Sort algorithms for sorting elements.
- Understand the concepts of singly linked list and its operations like insertion and deletion.
- Comprehend the working of a linear queue and circular queue.
- Describe the implementation of an ordered singly linked list.

3. Apply:

- Implement the conversion of an infix expression to postfix expression.
- Evaluate a given postfix expression using stack data structure.
- Apply the concepts of binary search tree for creating and manipulating a binary search tree.

4. Analyze:

- Analyze the efficiency and complexity of linear and binary search algorithms.

5. Evaluate:

- Evaluate the efficiency of sorting algorithms like Bubble Sort, Insertion Sort, and Selection Sort in different scenarios.

6. Create:

- Create programs to implement the various data structures and algorithms discussed in the course.

By the end of the course, the students should be able to apply the knowledge gained in the lab sessions to solve real-world problems efficiently using data structures and algorithms.