

K. J. Somaiya College of Engineering, Mumbai-77
(A Constituent College of Somaiya Vidyavihar University)

Department of Information Technology

Course: Data Structures

Term: ODD (2023-24)

Class / Sem: SY BTECH (IT) III

Course Outcomes (COs)

CO 1	Explain the different data structures used in problem solving.
CO 2	Apply linear and non-linear data structure in application development.
CO 3	Describe concepts of advance data structures like set, map & dictionary.
CO 4	Demonstrate different sorting and searching methods.

List of Experiments

Sr. No.	Experiment Title	Outcomes achieved
1.	Demonstrate the use of arrays, pointers, array of structure and pointer to structure in C.	CO 1
2.	Demonstrate the use of structures and pointer/class and objects to implement Singly Linked List (SLL).	CO 2
3.	Demonstrate the use of dynamic STACK in the implementation of Expression Conversion.	CO 2
4.	Demonstrate the use of static CIRCULAR QUEUE in the implementation of job scheduling.	CO 2
5.	Demonstrate the use of DLL in implementation of BST.	CO 2
6.	Demonstrate Graph Representation and Traversal using appropriate data structure.	CO 2
7.	Demonstrate the use hash table in implementation of Dictionary using Circular Array	CO 3
8.	Demonstrate use of sorting in binary search algorithms. *Virtual lab : Demonstrate sorting and searching algorithms.	CO 4

*Students are expected to explore the virtual lab(online from IIT/other reputed institutions) and create the write-up similar to the one which they are referring for the other experiments and write their observations.

Recommended Books/ WebSites:

1. Data Structures A Psedocode Approach with C, Richard F. Gilberg & Behrouz A. Forouzan, second edition, CENGAGE Learning.
2. Y. Langsam, M. Augenstein and A. Tenenbaum, "Data Structures using C", Pearson Education Asia, First Edition, 2002.
3. Michael T Goodrich, Roberto Tamassia, David Mount Data Structure and Algorithm in C++, Wiley, First Edition.

Course In-charge
Prof. Chirag Desai
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