

Sreenidhi Institute of Science and Technology
Department of Computer Science and Engineering
M.Tech Computer Science

Name of the lab: **ADVANCED DATA STRUCTURES LAB**

Lab Number: 2414

Number of systems: 32

HARDWARE DETAILS

S.NO	NAME OF THE HARDWARE	MANUFACTURER
1	Make	HP
2	Model	HP Compaq 4000
3	Memory	4 GB RAM
4	Processor	Intel Core 2 Duo CPU
5	Hard Disk(HDD)	500GB HDD
6	SMPS	ATX
7	Monitor	HP LV1911(19")
8	Keyboard	HP QWERTY Model
9	Mouse	HP Optical Mouse

SOFTWARE DETAILS

S.NO	NAME OF THE SOFTWARE	SOURCE
1	WINDOWS 7 Professional SP1	Licensed
2	Informatica Power Center Express Edition	Licensed
3	SPSS Clementine	Licensed
4	WEKA	Open Source
5	Ubuntu	Open Source
6	JDK 1.7	Open Source
7	Putty	Open Source
8	KasperSky Endpoint Security	Licensed

List of Experiments in Advanced Data Structures Lab

List of Programs

1. Write a JAVA program to perform the following operations:
 - a) Insert an element into a Min-Max heap
 - b) Delete an element from a Min-Max heap
 - c) Search for a key element in a Min-Max heap

2. Write a JAVA program to perform the following operations:
 - a) Insert an element into a Leftist tree
 - b) Delete an element from a Leftist tree
 - c) Search for a key element in a Leftist tree

3. Write a JAVA program to perform the following operations:
 - a) Insert an element into a binomial heap
 - b) Delete an element from a binomial heap.
 - c) Search for a key element in a binomial heap

4. Write a JAVA program for implementing the following collision resolution techniques:
 - a) Separate Chaining b) Linear probing c) Double hashing

5. Write a JAVA program to perform the following operations:
 - a) Insert an element into a binary search tree.

- b) Delete an element from a binary search tree.
 - c) Search for a key element in a binary search tree.
6. Write a JAVA program to perform the following operations:
- a) Insert an element into an AVL tree.
 - b) Delete an element from an AVL search tree.
 - c) Search for a key element in an AVL search tree.
7. Write a JAVA program to perform the following operations:
- a) Insert an element into a Red-Black tree.
 - b) Delete an element from a Red-Black tree.
 - c) Search for a key element in a Red-Black tree.
8. Write a JAVA program to perform the following operations:
- a) Insert an element into a B- tree.
 - b) Delete an element from a B- tree.
 - c) Search for a key element in a B- tree.
9. Write a JAVA program to implement all the functions of a dictionary using hashing.
10. Write a JAVA program for implementing Knuth-Morris-Pratt pattern matching algorithm.
11. Write a JAVA program for implementing Brute Force pattern matching algorithm.
12. Write a JAVA program for implementing Boyer pattern matching algorithm.

