**DATA STRUCTURE PROGRAM LIST**

1. **Write a C++ program to implement singly linked list.**
2. **Write a C++ program to split the linked list into two halves such that the element ‘e’ should be the first element of second list.**
3. **Find the subset of a given set S = {S1,S2,S3,………,Sn} OF ‘n’ positive integers whose sum is equal to a given positive integer d.**
4. **Write a program to create a WAP to store a k keys into an array of size n at the location compute using a hash function, loc=key%n, where k<=n and key takes values from [1 to m], m>n. Handle the collision using Linear Probing technique.**
5. **Write a C++ program to implement doubly linked list.**
6. **Write a program to insertion into a red black tree and deletion into a red black tree.**
7. **Write a program to insertion into an AVL tree and deletion from an AVL tree.**
8. **Finding minimum and maximum from given unsorted array by using divide** conquer **method.**
9. **Create a program to merge sort using divide and** conquer **array.**
10. Find the minimum cost spanning tree of a given undirected graph using Kruskal’s Algorithm.
11. Find the minimum cost spanning tree of a given weighted undirected graph using Prim’s Algorithm.
12. Write a C++ program for solving the N-Queen’s Problem using backtracking.
13. Write a program to implement a tower of Hanoi.
14. Finding Hamiltonian circuit for a given graph by using back tracking.
15. Write a program to count number of connected component in an undirected graph.
16. Write a program to implement breadth first search for undirected graph (BFS).
17. Write a program to implement depth first search for undirected graph (DFS).
18. Write a program to implement BST

19. Write a program to implement MIN HEAP

20. Write a program to implement MAX HEAP SORT

\*Write a program to create a DFA which ends with 011.

\*Write a program to create a DFA which accepts 0\*1.