Practical -19

Objective: Implement the real-life scenario using binary search tree.

19. McAfee Corp. is an American global computer security software company headquartered in San Jose, CA. Kiara is working at McAfee, Ahmedabad and she wants to capture all orders of security software equipment in the form of a binary search tree as each order is linked to the previous one in a parent-child relationship. Kindly perform the below operation using C language also create the binary search tree structure using paper and pen:

a. **Create BST from the below list of elements**
        int array [7] = {20, 15, 30, 10, 19, 21, 42}
b. **Print elements using pre-order, post-order, and in-order traversal.**

   Input:
        20, 15, 30, 10, 19, 21, 42
   Output:
      Pre-order Traversal: 20, 15, 10, 19, 30, 21, 42
      Post-order Traversal: 10, 19, 15, 21, 42, 30, 20
      In-order Traversal: 10, 15, 19, 20, 21, 30, 42

c. **Search elements 31 and 15 in the created BST.**
   Output:
   Enter Elements to search: 15
   Element exists
   Enter Elements to search: 31
   Element does not exist

Hint: /* A binary search tree node has data, pointer to left child and a pointer to right child */

```
struct node {
  int data;

  struct node *leftChild;
  struct node *rightChild;
};
```