Step-by-Step Tree Construction

The following figures illustrate the construction of the binary search tree (BST) at each step of node insertion.

Algorithm for Tree Construction

The binary tree was built according to these steps:

1. **Starting with an Empty Tree:** The tree starts empty. Nodes are inserted based on user input, and each insertion follows the BST properties.

2. **Inserting Nodes:** Each new node is inserted by comparing its value with the current nodes. If it is smaller, it goes to the left child; if larger, it goes to the right child. This process is repeated recursively until the correct position is found.

3. **Recursive Insertion:** The insertion process is recursive. The tree is traversed starting from the root, and the node is inserted in the correct position by comparing it with existing nodes.
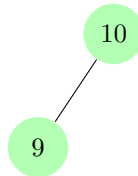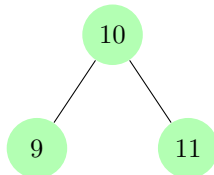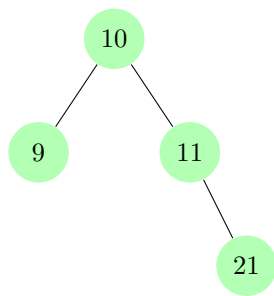

Figure 1: Step 1
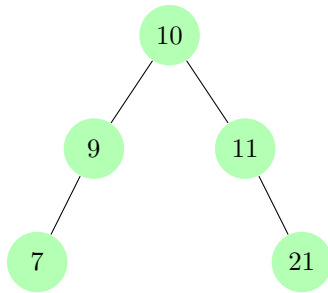

Figure 2: Step 2

Figure 3: Step 3

Figure 4: Step 4

Figure 5: Step 5