Implementation of binary tree :-

Including all necessary header files. Creating a node of type structure which has three integer variables and two pointers of structure node type. Following are the functions used in the program.

1. new\_node() : This function is used to create nodes of structure type. It initializes the data part of the node with the item and rest all to zero (Null for the pointers). It then returns the node pointer.
2. PerfectBT() : This function keeps track if the tree forms a perfect binary tree or not.
3. buildTree() : This function is used to build the binary tree(i.s. Perfect binary tree) and returns the root of the tree to the main function.
4. height() : This function calculates the height of the binary tree with recursive function calls.
5. inOrder() : This function is used to print the inorder traversal of the binary tree that is formed.
6. preOrder() : This function is used to print the preorder traversal of the binary tree that is formed.
7. postOrder() : This function is used to print the postorder traversal of the binary tree that is formed.
8. display() and printLevel() : These functions print the elements present in all the levels of the tree thus displaying the binary tree in tree form.
9. main() : The program execution starts from the main(). It takes the input from the user and performs the operations as required.

OUTPUT :-



