#include <stdio.h>

#include <stdlib.h>

struct Node {

int data;

struct Node \*left, \*right;

};

struct Node\* createNode(int val) {

struct Node\* newNode = (struct Node\*)malloc(sizeof(struct Node));

newNode->data = val;

newNode->left = newNode->right = NULL;

return newNode;

}

struct Node\* insert(struct Node\* root, int val) {

if (root == NULL) return createNode(val);

if (val < root->data) root->left = insert(root->left, val);

else root->right = insert(root->right, val);

return root;

}

void inorder(struct Node\* root) {

if (root != NULL) {

inorder(root->left);

printf("%d ", root->data);

inorder(root->right);

}

}

void preorder(struct Node\* root) {

if (root != NULL) {

printf("%d ", root->data);

preorder(root->left);

preorder(root->right);

}

}

void postorder(struct Node\* root) {

if (root != NULL) {

postorder(root->left);

postorder(root->right);

printf("%d ", root->data);

}

}

int main() {

struct Node\* root = NULL;

int n, val, i;

printf("Enter number of nodes: ");

scanf("%d", &n);

for (i = 0; i < n; i++) {

printf("Enter value for node %d: ", i + 1);

scanf("%d", &val);

root = insert(root, val);

}

printf("\nInorder Traversal: ");

inorder(root);

printf("\nPreorder Traversal: ");

preorder(root);

printf("\nPostorder Traversal: ");

postorder(root);

return 0;

}

