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1: #include<stdio.h>
2: #include<malloc.h>
3:
4: struct node{
5:     int data;
6:     struct node* left;
7:     struct node* right;
8: };
9:
10: struct node* createNode(int data){
11:     struct node *n; // creating a node pointer
12:     n = (struct node *) malloc(sizeof(struct node)); // Allocating
13:     n->data = data; // Setting the data
14:     n->left = NULL; // Setting the left and right children to NULL
15:     n->right = NULL; // Setting the left and right children to NULL
16:     return n; // Finally returning the created node
17: }
18:
19: void preOrder(struct node* root){
20:     if(root!=NULL){
21:         printf("%d ", root->data);
22:         preOrder(root->left);
23:         preOrder(root->right);
24:     }
25: }
26:
27: void postOrder(struct node* root){
28:     if(root!=NULL){
29:         postOrder(root->left);
30:         postOrder(root->right);
31:         printf("%d ", root->data);
32:     }
33: }
34:
35: void inOrder(struct node* root){
36:     if(root!=NULL){
37:         inOrder(root->left);
38:         printf("%d ", root->data);
39:         inOrder(root->right);

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40:     }
41: }
42:
43: int isBST(struct node* root){
44:     static struct node *prev = NULL;
45:     if(root!=NULL){
46:         if(!isBST(root->left)){
47:             return 0;
48:         }
49:         if(prev!=NULL && root->data <= prev->data){
50:             return 0;
51:         }
52:         prev = root;
53:         return isBST(root->right);
54:     }
55:     else{
56:         return 1;
57:     }
58: }
59:
60: int main(){
61:
62:     // Constructing the root node - Using Function (Recommended)
63:     struct node *p = createNode(5);
64:     struct node *p1 = createNode(3);
65:     struct node *p2 = createNode(6);
66:     struct node *p3 = createNode(1);
67:     struct node *p4 = createNode(4);
68:     // Finally The tree looks like this:
69:     //      5
70:     //     / \
71:     //    3   6
72:     //   / \
73:     //  1  4
74:
75:     // Linking the root node with left and right children
76:     p->left = p1;
77:     p->right = p2;
78:     p1->left = p3;

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79:     p1->right = p4;
80:
81:     // preOrder(p);
82:     // printf("\n");
83:     // postOrder(p);
84:     // printf("\n");
85:     inOrder(p);
86:     printf("\n");
87:     // printf("%d", isBST(p));
88:     if(isBST(p)){
89:         printf("This is a bst" );
90:     }
91:     else{
92:         printf("This is not a bst");
93:     }
94:     return 0;
95: }
96:
```