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1: // C program to demonstrate insert
2: // operation in binary
3: // search tree.
4: #include <stdio.h>
5: #include <stdlib.h>
6:
7: struct node {
8:     int key;
9:     struct node *left, *right;
10: };
11:
12: // A utility function to create a new BST node
13: struct node* newNode(int item)
14: {
15:     struct node* temp
16:         = (struct node*)malloc(sizeof(struct node));
17:     temp->key = item;
18:     temp->left = temp->right = NULL;
19:     return temp;
20: }
21:
22: // A utility function to do inorder traversal of BST
23: void inorder(struct node* root)
24: {
25:     if (root != NULL) {
26:         inorder(root->left);
27:         printf("%d \n", root->key);
28:         inorder(root->right);
29:     }
30: }
31:
32: /* A utility function to insert
33: a new node with given key in
34: * BST */
35: struct node* insert(struct node* node, int key)
36: {
37:     /* If the tree is empty, return a new node */
38:     if (node == NULL)
39:         return newNode(key);

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40:
41:     /* Otherwise, recur down the tree */
42:     if (key < node->key)
43:         node->left = insert(node->left, key);
44:     else if (key > node->key)
45:         node->right = insert(node->right, key);
46:
47:     /* return the (unchanged) node pointer */
48:     return node;
49: }
50:
51: // Driver Code
52: int main()
53: {
54:     /* Let us create following BST
55:           50
56:        /   \
57:       30    70
58:      / \  / \
59:     20 40 60 80 */
60:     struct node* root = NULL;
61:     root = insert(root, 50);
62:     insert(root, 30);
63:     insert(root, 20);
64:     insert(root, 40);
65:     insert(root, 70);
66:     insert(root, 60);
67:     insert(root, 80);
68:
69:     // print inorder traversal of the BST
70:     inorder(root);
71:
72:     return 0;
73: }
74:

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