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10..#include <stdio.h>
#include <stdlib.h>

struct BST {
    int data;
    struct BST *left, *right;
};

typedef struct BST NODE;

/* Insert */
NODE* insert(NODE *root, int data) {
    if (!root) {
        root = (NODE*)malloc(sizeof(NODE));
        root->data = data;
        root->left = root->right = NULL;
        return root;
    }
    if (data < root->data)
        root->left = insert(root->left, data);
    else if (data > root->data)
        root->right = insert(root->right, data);
    return root;
}

/* Search */
void search(NODE *root, int data) {
    if (!root) {
        printf("Element not found\n");
        return;
    }
    if (data < root->data)
        search(root->left, data);
    else if (data > root->data)
        search(root->right, data);
    else
        printf("Element found: %d\n", data);
}

/* Traversals */
void inorder(NODE *root) {
    if (root) {
        inorder(root->left);
        printf("%d ", root->data);
        inorder(root->right);
    }
}

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    }
}

void preorder(NODE *root) {
    if (root) {
        printf("%d ", root->data);
        preorder(root->left);
        preorder(root->right);
    }
}

void postorder(NODE *root) {
    if (root) {
        postorder(root->left);
        postorder(root->right);
        printf("%d ", root->data);
    }
}

int main() {
    NODE *root = NULL;
    int ch, n, data, i;

    while (1) {
        printf("\n1.Insert\n2.Search\n3.Inorder\n4.Preorder\n5.Postorder\n6.Exit\n");
        scanf("%d", &ch);

        switch (ch) {
            case 1:
                printf("Enter n: ");
                scanf("%d", &n);
                for (i = 0; i < n; i++) {
                    scanf("%d", &data);
                    root = insert(root, data);
                }
                break;

            case 2:
                printf("Enter element: ");
                scanf("%d", &data);
                search(root, data);
                break;

            case 3: inorder(root); break;
        }
    }
}

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    case 4: preorder(root); break;
    case 5: postorder(root); break;
    case 6: exit(0);
    default: printf("Invalid choice\n");
}
}
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