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

struct Node {
    int data;
    struct Node* left;
    struct Node* right;
};

struct Node* createNode(int data) {
    struct Node* newNode = (struct Node*)malloc(sizeof(struct Node));
    newNode->data = data;
    newNode->left = newNode->right = NULL;
    return newNode;
}

struct Node* insert(struct Node* root, int data) {
    if (root == NULL) {
        return createNode(data);
    }

    if (data < root->data) {
        root->left = insert(root->left, data);
    } else if (data > root->data) {
        root->right = insert(root->right, data);
    }

    return root;
}

struct Node* findMin(struct Node* node) {
    struct Node* current = node;
    while (current && current->left != NULL) {
        current = current->left;
    }
    return current;
}

struct Node* deleteNode(struct Node* root, int data) {
    if (root == NULL) {
        return root;
    }

    if (data < root->data) {

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    root->left = deleteNode(root->left, data);
} else if (data > root->data) {
    root->right = deleteNode(root->right, data);
} else {
    if (root->left == NULL) {
        struct Node* temp = root->right;
        free(root);
        return temp;
    } else if (root->right == NULL) {
        struct Node* temp = root->left;
        free(root);
        return temp;
    }
    struct Node* temp = findMin(root->right);

    root->data = temp->data;

    root->right = deleteNode(root->right, temp->data);
}
return root;
}

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void inorderTraversal(struct Node* root) {
    if (root != NULL) {
        inorderTraversal(root->left);
        printf("%d ", root->data);
        inorderTraversal(root->right);
    }
}

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int main() {
    struct Node* root = NULL;
    root = insert(root, 5);
    insert(root, 3);
    insert(root, 2);
    insert(root, 4);
    insert(root, 7);
    insert(root, 6);
    insert(root, 8);

    printf("Inorder traversal of the created BST: \n");
    inorderTraversal(root);
    printf("\n");
}

```

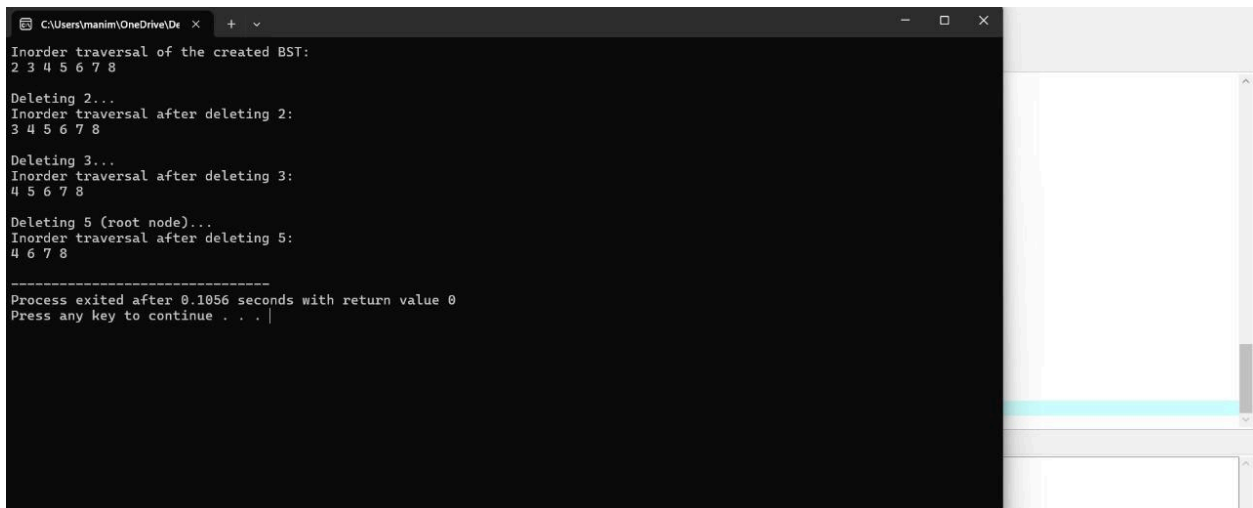
```
printf("\nDeleting 2...\n");
root = deleteNode(root, 2);
printf("Inorder traversal after deleting 2: \n");
inorderTraversal(root);
printf("\n");
```

```
printf("\nDeleting 3...\n");
root = deleteNode(root, 3);
printf("Inorder traversal after deleting 3: \n");
inorderTraversal(root);
printf("\n");
```

```
printf("\nDeleting 5 (root node)...\n");
root = deleteNode(root, 5);
printf("Inorder traversal after deleting 5: \n");
inorderTraversal(root);
printf("\n");
```

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return 0;
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}
```



```
C:\Users\manim\OneDrive\Desktop > C:\Users\manim\OneDrive\Desktop> g++ 1.cpp
C:\Users\manim\OneDrive\Desktop> ./a.exe
Inorder traversal of the created BST:
2 3 4 5 6 7 8
Deleting 2...
Inorder traversal after deleting 2:
3 4 5 6 7 8
Deleting 3...
Inorder traversal after deleting 3:
4 5 6 7 8
Deleting 5 (root node)...
Inorder traversal after deleting 5:
4 6 7 8
-----
Process exited after 0.1056 seconds with return value 0
Press any key to continue . . .
```