

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
typedef struct node {
```

```
    struct node *left;
```

```
    int element;
```

```
    struct node *right;
```

```
} Node;
```

```
Node *Insert(Node *Tree, int e);
```

```
void Display(Node *Tree);
```

```
Node *Delete(Node *Tree, int e);
```

```
Node *FindMin(Node *Tree);
```

```
Node *FindMax(Node *Tree);
```

```
Node *Find(Node *Tree, int e);
```

```
Node *Insert(Node *Tree, int e) {
```

```
    if (Tree == NULL) {
```

```
        Node *NewNode = malloc(sizeof(Node));
```

```
        NewNode->element = e;
```

```
        NewNode->left = NULL;
```

```
        NewNode->right = NULL;
```

```
        Tree = NewNode;
```

```
    } else if (e < Tree->element) {
```

```
        Tree->left = Insert(Tree->left, e);
```

```
    } else if (e > Tree->element) {
```

```
        Tree->right = Insert(Tree->right, e);
```

```
    }
```

```
    return Tree;
```

```
}
```

```

void Display(Node *Tree) {
    if (Tree != NULL) {
        Display(Tree->left);
        printf("%d\t", Tree->element);
        Display(Tree->right);
    }
}

```

```

Node *Delete(Node *Tree, int e) {
    if (Tree == NULL) {
        return NULL;
    }
    if (e < Tree->element) {
        Tree->left = Delete(Tree->left, e);
    } else if (e > Tree->element) {
        Tree->right = Delete(Tree->right, e);
    } else {
        Node *TempNode;
        if (Tree->left && Tree->right) {
            TempNode = FindMin(Tree->right);
            Tree->element = TempNode->element;
            Tree->right = Delete(Tree->right, Tree->element);
        } else {
            TempNode = Tree;
            if (Tree->left == NULL) {
                Tree = Tree->right;
            } else if (Tree->right == NULL) {
                Tree = Tree->left;
            }
        }
    }
}

```

```

        free(TempNode);
    }
}
return Tree;
}

```

```

Node *FindMin(Node *Tree) {
    if (Tree != NULL) {
        while (Tree->left != NULL) {
            Tree = Tree->left;
        }
        return Tree;
    }
    return NULL;
}

```

```

Node *FindMax(Node *Tree) {
    if (Tree == NULL) {
        return NULL;
    } else if (Tree->right == NULL) {
        return Tree;
    } else {
        return FindMax(Tree->right);
    }
}

```

```

Node *Find(Node *Tree, int e) {
    if (Tree == NULL) {
        return NULL;
    } else if (e < Tree->element) {

```

```

        return Find(Tree->left, e);
    } else if (e > Tree->element) {
        return Find(Tree->right, e);
    } else {
        return Tree;
    }
}

```

```

int main() {
    Node *Tree = NULL;
    Node *Result = NULL;
    int n, i, e, ch;
    printf("Enter number of nodes in the tree : ");
    scanf("%d", &n);
    printf("Enter the elements :\n");
    for (i = 1; i <= n; i++) {
        scanf("%d", &e);
        Tree = Insert(Tree, e);
    }
}

```

```

do {
    printf("1. Insert \n2. Find \n3. Find Min \n4. Find Max \n5. Delete \n6. Display \n7. Exit\n");
    printf("Enter your choice : ");
    scanf("%d", &ch);
    switch (ch) {
        case 1:
            printf("Enter the element :");
            scanf("%d", &e);
            Tree = Insert(Tree, e);
            break;
    }
}

```

case 2:

```
printf("Enter the element to find : ");
scanf("%d", &e);
Result = Find(Tree, e);
if (Result == NULL)
    printf("Element is not found...\n");
else
    printf("Element is found...\n");
break;
```

case 3:

```
Result = FindMin(Tree);
if (Result == NULL)
    printf("Tree is empty...\n");
else
    printf("Min element is: %d\n", Result->element);
break;
```

case 4:

```
Result = FindMax(Tree);
if (Result == NULL)
    printf("Tree is empty...\n");
else
    printf("Max element is: %d\n", Result->element);
break;
```

case 5:

```
printf("\nEnter the element to delete : \n");
scanf("%d", &e);
Tree = Delete(Tree, e);
printf("Tree elements in inorder after deletion :\n");
Display(Tree);
printf("\n");
```

```
        break;
    case 6:
        printf("Tree elements in inorder :\n");
        Display(Tree);
        printf("\n");
        break;
    case 7:
        printf("Exiting...\n");
        break;
    default:
        printf("Invalid choice, please try again.\n");
    }
} while (ch != 7);

return 0;
}
```