자료구조론 CC343_2207

Programming assignment 7

경기대학교 컴퓨터공학부

201511837 이상민

Programming Example

1번

```
Enter your option : 1

Enter the value of the new node (no more node = -1) : 11

Enter the value of the new node (no more node = -1) : -1
```

2번

```
Enter your option : 2

The elements of the tree in Preorder are :
45      39      12      10      11      34      32      56      54      78      67      89      81
********* MAIN MENU **********
```

3번

```
Enter your option : 3

The elements of the tree in Inorder are :
10      11      12      32      34      39      45      54      56      67      78      81      89
********* MAIN MENU **********
```

4번

```
Enter your option : 4

The elements of the tree in Postorder are :
11      10      32      34      12      39      54      67      81      89      78      56      45
********* MAIN MENU **********
```

5번

```
14. Exit

Enter your option : 5

The smallest element is : 10
********** MAIN MENU **********
```

6번

```
Enter your option : 6

The largest element is : 89
********** MAIN MENU **********
```

7번

```
Enter your option : 7

Enter the element to be deleted : 11
The node 11 has been successfully deleted from the tree!

********** MAIN MENU **********

1. Insert Elements
2. Preorder Traversal
3. Inorder Traversal
4. Postorder Traversal
5. Find the smallest Element
6. Find the largest Element
7. Delete an Element
8. Count the total number of nodes
9. Count the total number of external nodes
10. Count the total number of internal nodes
11. Determine the height of the tree
12. Find the mirror image of the tree
13. Delete the tree
14. Exit

Enter your option : 2

The elements of the tree in Preorder are :
45      39      12      10      34      32      56      54      78      67      89      81
********** MAIN MENU **********
```

8번

```
14. Exit

Enter your option : 8

The total number of nodes = 12
********** MAIN MENU **********
```

9번

```
Enter your option : 9

The total number of external nodes = 5
********** MAIN MENU **********
```

10번

```
Enter your option : 10

The total number of internal nodes = 7
********** MAIN MENU **********
```

11번

```
Enter your option : 11

The height of the tree = 5
********** MAIN MENU **********
```

12번

```
 14. Exit

 Enter your option : 12
The tree has been mirrored!

********** MAIN MENU **********
```

13번

```
 Enter your option : 13
The tree has been destroyed!

********** MAIN MENU **********

 1. Insert Elements
 2. Preorder Traversal
 3. Inorder Traversal
 4. Postorder Traversal
 5. Find the smallest Element
 6. Find the largest Element
 7. Delete an Element
 8. Count the total number of nodes
 9. Count the total number of external nodes
 10. Count the total number of internal nodes
 11. Determine the height of the tree
 12. Find the mirror image of the tree
 13. Delete the tree
 14. Exit

 Enter your option : 2
System: The tree is empty! Build the tree...
```