

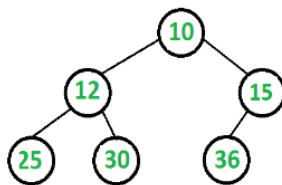
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Binary Tree to DLL

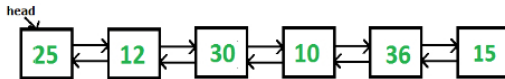
Difficulty: **Hard**Accuracy: **53.36%**Submissions: **146K+**Points: **8**

Given a Binary Tree (BT), convert it to a Doubly Linked List (DLL) in place. The left and right pointers in nodes will be used as previous and next pointers respectively in converted DLL. The **order of nodes** in DLL must be the same as the order of the given Binary Tree. The first node of **Inorder traversal** (leftmost node in BT) must be the head node of the DLL.

Note: h is the tree's height, and this space is used implicitly for the recursion stack.



The above tree should be in-place converted to following Doubly Linked List(DLL).



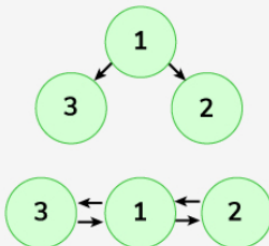
Examples:

Input:

```
  1
 / \
3   2
```

Output:

```
3 1 2
2 1 3
```



Explanation: DLL would be 3<=>1<=>2

Input:

```
  10
 /  \
20   30
/    \
40    60
```

Output:

```
40 20 60 10 30
```

Java (1.8)

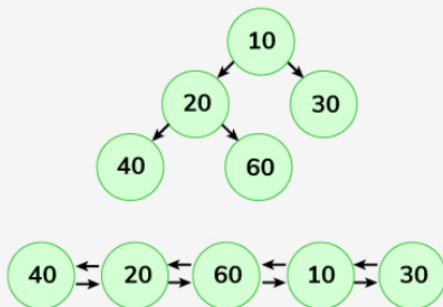
Average Time: 60m

[Start Timer](#)

```
1  /** Driver Code Starts
2  //Initial Template for Java
3
4  import java.util.Scanner;
5  import java.util.*;
6  import java.io.*;
7  import java.lang.*;
8
9  class Node
10 {
11     Node left, right;
12     int data;
13
14     Node(int d)
15     {
16         data = d;
17         left = right = null;
18     }
19 }
20
21 class BT_To_DLL
22 {
23
24
```

[Custom Input](#)[Compile & Run](#)[Submit](#)

30 10 60 20 40



Explanation: DLL would be $40 \leq 20 \leq 60 \leq 10 \leq 30$.

Expected Time Complexity: $O(\text{no. of nodes})$

Expected Space Complexity: $O(\text{height of the tree})$

Constraints:

$1 \leq \text{Number of nodes} \leq 10^5$

$0 \leq \text{Data of a node} \leq 10^5$

[Try more examples](#)

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