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- MEDIUM
- Max Score: 50 Points
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TREE LEVEL ORDER TRAVERSAL

You are given the number of nodes present in the tree. You have to input the nodes and form a Binary Search Tree (BST). After forming the BST, print the Level Order traversal of the BST.

Input

Line 1 contains integer n denoting number of nodes.

Line 2 contains n spaced integers denoting node values.

Output

Print a single line of space separated integers denoting Level Order traversal of tree.

Constraints

1<=n<=500

-1000<=value of node<=1000

Sample Input

```
6
```

```
1 2 5 3 4 6
```

Sample Output

```
1 2 5 3 6 4
```

Explanation

```
The BST is like :-
     1
      \
       2
        \
         5
        /  \
       3    6
        \
         4
We need to print the nodes level by level. We process each level from left to right.

Level Order Traversal: 1 -> 2 -> 5 -> 3 -> 6 -> 4.
```

Topic Tags

- Trees

My code

```
// n java
import java.util.*;
import java.lang.*;
import java.io.*;

class Node
{
    int data;
    Node next ,prev;
```

```
    Node(int data, Node next,Node prev)
    {
        this.data = data;
        this.next = next;
        this.prev = prev;
    }

    Node() {}
}
public class Main
{
  static Node insert(Node root,int n)
  {
    if(root==null)
    {
      root=new Node(n,null,null);
    return root;
    }
   else if(n< root.data)
      root.prev= insert( root.prev, n);
    else   if(n>root.data)
      root.next= insert( root.next, n);
    return root;
  }
static void  lev_ord(Node arr[],int point,int end,int insert_poin)
  {
    if( (insert_poin -1)== end)return;
     if( point ==end)return;
     if(arr[point]!=null)
      {
```

```
    System.out.print(arr[point].data+" ");
        arr[insert_poin+1]=arr[point].prev;
        arr[insert_poin+2]=arr[point].next;
        insert_poin=insert_poin+2;
      }

     lev_ord(arr,point+1,end, insert_poin);
  }
        public static void main (String[] args) throws
java.lang.Exception
        {
                //your code here
      Scanner s=new Scanner(System.in);
      int n=s.nextInt();
      int arr[]=new int[n];
      Node root=null;
      Node arra[]=new Node[n+n+1];
          for(int i=0;i<n+n;i++)
            arra[i]=null;
      for(int i=0;i<n;i++)
      {
        arr[i]=s.nextInt();
        root=insert( root, arr[i]);
      }
      arra[0]=root;
    lev_ord(arra,0,n+n,0);
          }
}
```