NAME –KASYAP VARANASI

REGISTRATION NUMBER –20BCE7315

Write a program create Binary tree from Inorder and postorder sequence. Also define a method Max() which returns maximum element from Binary Tree.

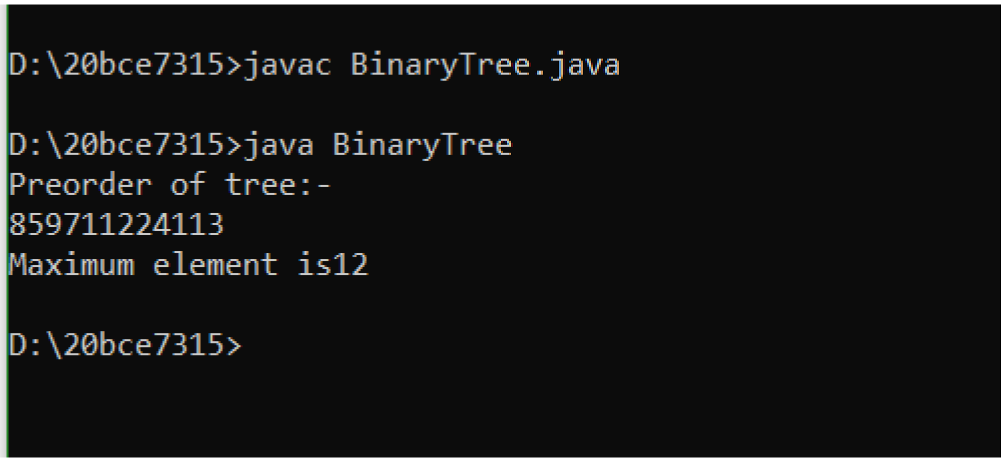
CODE-

```
class Node {
int data;
Node left,right;
public Node (int data){
this.data = data;
left = right = null;
    }
}
       public class BinaryTree{
       Node treeForm(int in [], int post[],int inStrt, int inEnd,
int postStrt, int postEnd)
       {
       if(inStrt > inEnd) {
        return null;
        }
        Node node = new Node (post[postEnd]);
        if (inStrt==inEnd)
        {
        return node;
        }
        int index =  search (in, inStrt, inEnd, node.data);
        node.left = treeForm(in, post,inStrt,index-1,postStrt,postStrt-inStrt+index-1);
        node.right = treeForm(in, post,index+1,inEnd,postEnd-inEnd+index,postEnd-1);
        return node;
  }
  int search(int arr[],int strt, int end, int value) {
    int i;
       for(i=strt;i<=end;i++)
       {
         if(arr[i]==value)
          break;
       }
        return i;
  }
  void preOrder(Node node){
    if (node ==null)
       {
return;
```

```
     }

     System.out.print(node.data+"");
     preOrder(node.left);
     preOrder(node.right);
}

     int max(Node node) {
      if (node == null){
       return 0;
       }
       int res = node.data;
       int lres = max(node.left);
       int rres = max(node.right);
       if(lres>res)
       {
         res = lres;
       }
       if (rres>res)
       {
        res = rres;
       }
       return res;
```

```
        }


        public static void main (String [] args){
        BinaryTree a = new BinaryTree();
        int in[] = new int[] {9,5,1,7,2,12,8,4,3,11};
        int post[] = new int[] {9,1,2,12,7,5,3,11,4,8};
        int n = in.length;
        Node root = a.treeForm (in, post,0,n-1,0,n-1);
        System.out.println("Preorder of tree:-");
        a.preOrder(root);
        System.out.println("\nMaximum element is"
+a.max(root));
        } }
```

OUTPUT-



```
D:\20bce7315>javac BinaryTree.java

D:\20bce7315>java BinaryTree
Preorder of tree:-
859711224113
Maximum element is12

D:\20bce7315>
```