

⑤ Merge two binary trees by summing the nodes.

```
Node merge ( Node n1 , Node n2 ) {  
    if (n1 == null) return n2 ;  
    if (n2 == null) return n1 ;  
    n1.data += n2.data ;  
    n1.left = merge (n1.left, n2.left) ;  
    n1.right = merge (n1.right, n2.right) ;  
    return n1 ;  
}
```

Runtime: O(n)

Space: O(n)

Algo:

1. Repeat until all nodes are done.

n<sub>1</sub>.data += n<sub>2</sub>.data

n<sub>1</sub>.left = merge (n<sub>1</sub>.left, n<sub>2</sub>.left) ;

n<sub>1</sub>.right = merge (n<sub>1</sub>.right, n<sub>2</sub>.right) ;

return n<sub>1</sub> ;