

Algorithm Design
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Solution of Exercise C-3.3

Algorithm findAllElements(k, v, c):

Input: The search key k , a node of the binary search tree v and a container c

Output: An iterator containing the found elements

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if  $v$  is an external node then  
    return  $c.elements()$   
if  $k = \text{key}(v)$  then  
     $c.addElement(v)$   
    return findAllElements( $k, T.rightChild(v), c$ )  
else if  $k < \text{key}(v)$  then  
    return findAllElements( $k, T.leftChild(v)$ )  
else  
    {we know  $k > \text{key}(v)$ }  
    return findAllElements( $k, T.rightChild(v)$ )
```

Note that after finding k , if it occurs again, it will be in the left most internal node of the right subtree.