

```
1 import java.util.Comparator;
2 import java.util.LinkedList;
3 import java.util.Queue;
4
5 public class BTree<E>
6 {
7     private Node<E> root;
8     private Comparator<E> comparator;
9     private int order;
10
11     /**
12      * Creates an empty tree from given order and comparator
13      * @param theOrder - given order of the tree
14      * @param theComp - given comparator of the tree
15      */
16     public BTree(int theOrder, Comparator<E> theComp)
17     {
18         this.order = theOrder;
19         this.comparator = theComp;
20         this.root = new Node<>(theOrder, theComp);
21     }
22
23     /**
24      * Adds the given item into the tree
25      * @param item - item to be added into the tree
26      */
27     public void add(E item)
28     {
29
30     }
31
32     /**
33      * Finds the leaf node in the tree rooted at the given node
34      * @param curr - the node to start the traversal from
35      * @param item - the item should be inserted at the node
36      * @return the leaf node in the tree
37      */
38     private Node<E> findLeaf(Node<E> curr, E item)
39     {
```

```
40         return curr;
41     }
42 }
43
44 /**
45  * Determines if the tree contains the given item
46  * @param item - the item to be determined if the tree
47  contain
48  * @return true if the tree contains the item
49  */
49 public boolean contains(E item)
50 {
51     return findNode(root, item) != null;
52 }
53
54 /**
55  * Finds the node containing the specified item if it exists
56  in tree
57  * @param curr - the node to start the traversal from
58  * @param item - the item to be found in the tree
59  * @return the node containing the specified item if it
60  exists in tree
61  */
61 private Node<E> findNode(Node<E> curr, E item)
62 {
63     return curr;
64 }
65
66 /**
67  * Performs inorder traversal of the tree
68  * @param visitor - given visitor to start traverse inorder
69  through
70  */
70 public void inorder(Visitor<E> visitor) {
71     inorder(visitor, root);
72 }
73
74 /**
```

```
75     * Performs inorder traversal of the tree
76     * @param visitor - given visitor to start traverse inorder
    through
77     * @param curr - node where the traversal start from
78     */
79     private void inorder(Visitor<E> visitor, Node<E> curr) {
80
81     }
82
83     /**
84     * Returns a string representation of this tree in sorted
    order
85     * @return a string representation of this tree in sorted
    order
86     */
87     public String toStringSorted() {
88         return "";
89     }
90
91     /**
92     * Returns a string representation of this tree in level-
    order traversal
93     * @return a string representation of this tree in level-
    order traversal
94     */
95     public String toString() {
96         return "";
97     }
98 }
99
```