SortedSet Interface

- It is a subinterface of set
- It ensures that elements are stored in the sorted order.

Key Features:

1. Maintains elements in the ascending order by default.
2. Does not allow the duplicate elements.

TreeSet – TreeSet (Java SE 21 & JDK 21)

A class which implements the sortedSet interface.

Characteristics:

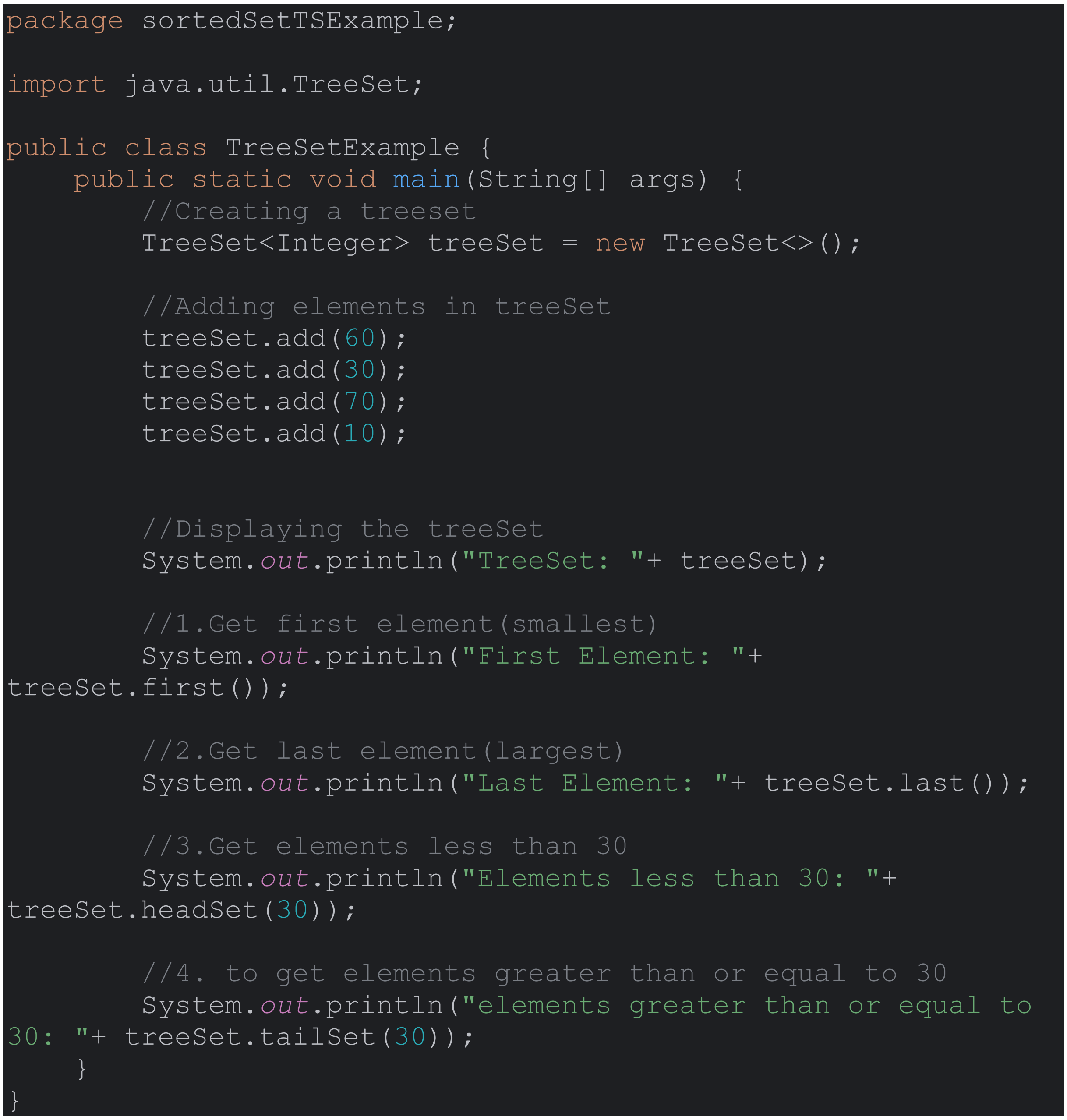
Thread unsafe: requires external synchronization in multithreaded environment.

Elements are stored in the ascending order.

Provides methods to retrieve elements based on position or range.

Why NullPointerException after attempting to add null values?

In essence, the fundamental requirement of comparing elements for sorting, which is integral to TreeSet's operation, makes it incompatible with the presence of `null` elements.



```
package sortedSetTSExample;

import java.util.TreeSet;

public class TreeSetExample {
    public static void main(String[] args) {
        //Creating a treeset
        TreeSet<Integer> treeSet = new TreeSet<>();

        //Adding elements in treeSet
        treeSet.add(60);
        treeSet.add(30);
        treeSet.add(70);
        treeSet.add(10);


        //Displaying the treeSet
        System.out.println("TreeSet: "+ treeSet);

        //1.Get first element(smallest)
        System.out.println("First Element: "+
treeSet.first());

        //2.Get last element(largest)
        System.out.println("Last Element: "+ treeSet.last());

        //3.Get elements less than 30
        System.out.println("Elements less than 30: "+
treeSet.headSet(30));

        //4. to get elements greater than or equal to 30
        System.out.println("elements greater than or equal to
30: "+ treeSet.tailSet(30));
    }
}
```