# JAVA - THE SORTEDMAP INTERFACE

 

The SortedMap interface extends Map. It ensures that the entries are maintained in ascending key order

Several methods throw a NoSuchElementException when no items are in the invoking map. A ClassCastException is thrown when an object is incompatible with the elements in a map. A NullPointerException is thrown if an attempt is made to use a null object when null is not allowed in the map.

The methods declared by SortedMap are summarized in the following table:

| SN | Methods with Description |
|---|---|
| 1 | **Comparator comparator( )**<br>Returns the invoking sorted map's comparator. If the natural ordering is used for the invoking map, null is returned. |
| 2 | **Object firstKey( )**<br>Returns the first key in the invoking map. |
| 3 | **SortedMap headMap(Object end)**<br>Returns a sorted map for those map entries with keys that are less than end. |
| 4 | **Object lastKey( )**<br>Returns the last key in the invoking map. |
| 5 | **SortedMap subMap(Object start, Object end)**<br>Returns a map containing those entries with keys that are greater than or equal to start and less than end |
| 6 | **SortedMap tailMap(Object start)**<br>Returns a map containing those entries with keys that are greater than or equal to start. |

## Example:

SortedMap have its implementation in various classes like TreeMap, Following is the example to explain SortedMap functionlaity:

```
import java.util.*;

public class TreeMapDemo {

   public static void main(String args[]) {
      // Create a hash map
      TreeMap tm = new TreeMap();
      // Put elements to the map
      tm.put("Zara", new Double(3434.34));
      tm.put("Mahnaz", new Double(123.22));
      tm.put("Ayan", new Double(1378.00));
      tm.put("Daisy", new Double(99.22));
```

```
      tm.put("Qadir", new Double(-19.08));

   // Get a set of the entries
      Set set = tm.entrySet();
      // Get an iterator
      Iterator i = set.iterator();
      // Display elements
      while(i.hasNext()) {
         Map.Entry me = (Map.Entry)i.next();
         System.out.print(me.getKey() + ": ");
         System.out.println(me.getValue());
      }
      System.out.println();
      // Deposit 1000 into Zara's account
      double balance = ((Double)tm.get("Zara")).doubleValue();
      tm.put("Zara", new Double(balance + 1000));
      System.out.println("Zara's new balance: " +
      tm.get("Zara"));
   }
}
```

This would produce the following result:

```
Ayan: 1378.0
Daisy 99.22
Mahnaz: 123.22
Qadir: -19.08
Zara: 3434.34
Zara.s current balance: 4434.34
```