



## NavigableMap Interface in Java with Example

NavigableMap is an extension of [SortedMap](#) which provides convenient navigation method like lowerKey, floorKey, ceilingKey and higherKey, and along with these popular navigation method it also provide ways to create a Sub Map from existing Map in Java e.g. headMap whose keys are less than specified key, tailMap whose keys are greater than specified key and a subMap which is strictly contains keys which falls between toKey and fromKey.

An example class that implements NavigableMap is [TreeMap](#).

**Methods** of NavigableMap:



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1. **lowerKey(Object key)** : Returns the greatest key strictly less than the given key, or if there is no such key.
2. **floorKey(Object key)** : Returns the greatest key less than or equal to the given key, or if there is no such key.
3. **ceilingKey(Object key)** : Returns the least key greater than or equal to the given key, or if there is no such key.
4. **higherKey(Object key)** : Returns the least key strictly greater than the given key, or if there is no such key.
5. **descendingMap()** : Returns a reverse order view of the mappings contained in this map.
6. **headMap(object toKey, boolean inclusive)** : Returns a view of the portion of this map whose keys are less than (or equal to, if inclusive is true) toKey.
7. **subMap(object fromKey, boolean fromInclusive, object toKey, boolean toInclusive)** : Returns a view of the portion of this map whose keys range from fromKey to toKey.
8. **tailMap(object fromKey, boolean inclusive)** : Returns a view of the portion of this map whose keys are greater than (or equal to, if inclusive is true) fromKey.

```
// Java program to demonstrate NavigableMap
import java.util.NavigableMap;
import java.util.TreeMap;

public class Example
{
    public static void main(String[] args)
    {
        NavigableMap<String, Integer> nm =
            new TreeMap<String, Integer>();

        nm.put("C", 888);
        nm.put("Y", 999);
        nm.put("A", 444);
        nm.put("T", 555);
        nm.put("B", 666);
        nm.put("A", 555);

        System.out.printf("Descending Set : %s\n",
            nm.descendingKeySet());
        System.out.printf("Floor Entry : %s\n",
            nm.floorEntry("L"));
    }
}
```

```

        System.out.printf("First Entry : %s\n",
                           nm.firstEntry());
        System.out.printf("Last Key : %s\n",
                           nm.lastKey());
        System.out.printf("First Key : %s\n",
                           nm.firstKey());
        System.out.printf("Original Map : %s\n", nm);
        System.out.printf("Reverse Map : %s\n",
                           nm.descendingMap());
    }
}

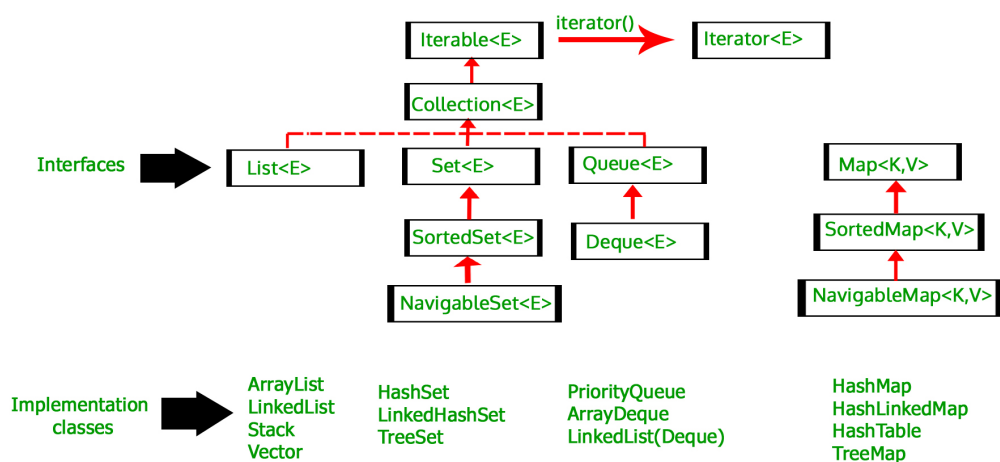
```

Output:

```

Descending Set : [Y, T, C, B, A]
Floor Entry : C=888
First Entry : A=555
Last Key : Y
First Key : A
Original Map : {A=555, B=666, C=888, T=555, Y=999}
Reverse Map : {Y=999, T=555, C=888, B=666, A=555}

```



This article is contributed by **Pratik Agarwal**. If you like GeeksforGeeks and would like to contribute, you can also write an article using [contribute.geeksforgeeks.org](https://contribute.geeksforgeeks.org) or mail your article to [contribute@geeksforgeeks.org](mailto:contribute@geeksforgeeks.org). See your article appearing on the GeeksforGeeks main page and help other Geeks.

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