



Sorted Collections

By Rahul Barve



Sorted Collections

- Whenever a collection is holding multiple data values, it is a very common requirement to perform sorting on those values.



Sorted Collections

- Collections Framework provides 2 APIs to perform sorting.
- `SortedSet` and `SortedMap`



SortedSet

- It is an extension to `Set`.
- Does not permit duplicate values, but stores elements in a sorted order.
- It is implemented by `TreeSet`.



SortedMap

- It is an extension to Map.
- Stores elements in the form of key-value pairs.



SortedMap

- Performs sorting on the basis of keys.
- It is implemented by `TreeMap`.



Sorting Customization

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Sorting Customization

- Collection Framework also provides a mechanism to customize the sorting algorithm.
- It is especially required in case of user defined objects.



Sorting Customization

- To customize the sorting algorithm, there are 2 APIs provided:
 - `java.lang.Comparable`
 - `Java.util.Comparator`



Comparable

- Implemented by a class of which objects are to be sorted.
- Useful to provide a default sorting algorithm.



Comparator

- Implemented by a class that provides the sorting algorithm.
- Used to customize the sorting algorithm.



More Utility Classes

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More Utility Classes

- There are several utility classes provided by `java.util` package to handle collection oriented functionalities.
- These utility classes are used to accomplish common requirements of the application



More Utility Classes

- Collections
- Arrays



Lets Summarize

- Introduction to Collections Framework.
- Understand the Need for Collections.
- Arrays Vs. Collections
- Simple Example
- Performing Iterations
- Type Safe Collections
- Types of Collections
- Working with Sorted Collections