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Comparable & Comparator

in Java

=> Comparable :

➔ Comparable is an interface which is present in java.lang package

➔ It contains only one method i.e. compareTo()
  o Prototype : public int compareTo(Object obj)
    • obj1.compareTo(obj2);
    • +ve - if obj1 is greater than obj2
    • -ve - if obj2 is greater than obj1
    • 0 - if obj1 is equals to obj2

➔ String and all wrapper classes (Integer, Long, Float etc) implements Comparable interface

➔ Problems with Comparable interface :-
1. By implementing Comparable interface, the properties of Original class will get changed
2. By this way we can sort only for one entity for example we can sort the student object either with name or rollno at one time

(To remove above problems java provided one interface i.e. Comparator)

=> Comparator :-

-> Comparator is an interface which is present in java.util package

-> Comparator interface contains 2 methods :-

    1. public int compare(Object obj1, Object obj2)

    2. public boolean equals(Object obj)

=> TASK : WAP to compare and add different elements according to length and alphabetical order

    For example :

    A, B, AA, BB, AAA, BBB, AAAA

=> What is difference between Comparable & Comparator interface :-

1. Comparable interface contains compareTo() method

   Comparator interface contains compare() method

2. Comparable interface is present in java.lang package

   Comparator interface is present in java.util package

3. By using Comparable interface original class properties will get changed

By using Comparator interface original class properties will not be changed

4. Comparable interface can sort only one entity

Comparator interface can sort multiple entities

5. Comparable interface is used to implicit sorting

Comparator interface is used for explicit sorting

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