TREESET

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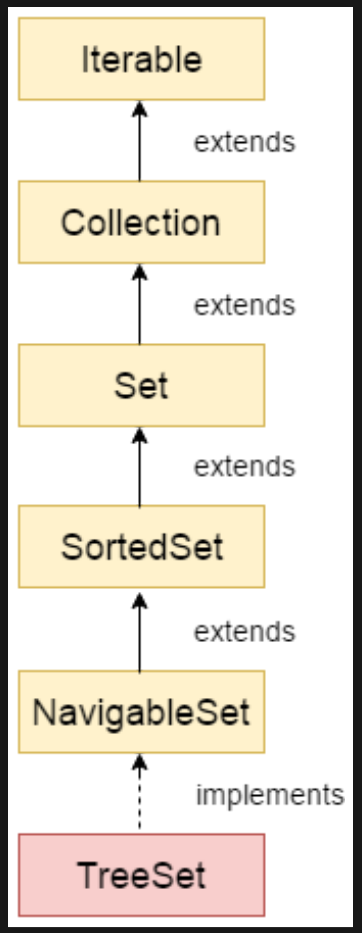
Es una colección que implementa Set y NavigableSet, usa una estructura de árbol para guardar los elementos

- Contiene elementos únicos
- No acepta duplicados
- La manipulación es rapida
- Elementos ordenados
- Orden natural


Iterable
extends
Collection
extends
Set
extends
SortedSet
extends
NavigableSet
implements
TreeSet

CONSTRUCTORES

```
TreeSet()
TreeSet(Collection c)
TreeSet(Comparator comp)
TreeSet(SortedSet ss)
```

MÉTODOS

```
boolean addAll(Collection c)
boolean contains(Object o)
boolean isEmpty()
boolean remove(Object o)
void add(Object o)
void clear()
Object clone()
Object first()
Object last()
int size()
```

EJERCICIOS

```
import java.util.*;
class TestTreeSet{
  public static void main(String args[]){

    TreeSet<String> al=new TreeSet<String>();
    al.add("Ravi");
    al.add("Vijay");
    al.add("Ravi");
    al.add("Ajay");

    Iterator<String> itr=al.iterator();
    while(itr.hasNext()){
      System.out.println(itr.next());
    }
  }
}
```

```
import java.util.*;
class Book implements Comparable<Book>{
  int id, year;
  String name,author,publisher;

  public Book(int id, String name, String author, String publisher, i
    this.id = id;
    this.name = name;
    this.author = author;
    this.publisher = publisher;
    this.year = year;
  }
  public int compareTo(Book b) {
    if(id > b.id){
      return 1;
    }else if(id < b.id){
      return -1;
    }else{
      return 0;
    }
  }
}
```

```
public class BookStore {
  public static void main(String[] args) {
    Set<Book> set=new TreeSet<Book>();

    Book b1=new Book(121,"El libro vaquero","Jordi Soler",
          "Novedades Editores", 1978);
    Book b2=new Book(233,"Kalimán","Galvin","Armando Couto",1963);
    Book b3=new Book(101,"Fantomas, la amenaza elegante",
          "Rosa María Phillips","Editorial Novaro",1967);

    set.add(b1);
    set.add(b2);
    set.add(b3);

    for(Book b:set){
      System.out.println(b.id+" "+b.name+" "+b.author+" "
      +b.publisher+" "+b.year);
    }
  }
}
```

```
import java.util.*;
class Book {
  int id, year;
  String name,author,publisher;

  public Book(int id, String name, String author, String publisher, i
    this.id = id;
    this.name = name;
    this.author = author;
    this.publisher = publisher;
    this.year = year;
  }
}
```

```
class NameComparator implements Comparator<Book>{
  public int compare(Book b1, Book b2) {
    return b1.name.compareTo(b2.name);
  }
}
```

```
class IdComparator implements Comparator<Book>{
  public int compare(Book b1, Book b2) {
    if(b1.id > b2.id){
      return 1;
    }else if(b1.id < b2.id){
      return -1;
    }else{
      return 0;
    }
  }
}
```

```
class YearComparator implements Comparator<Book>{
  public int compare(Book b1, Book b2) {
    if(b1.year > b2.year){
      return 1;
    }else if(b1.year < b2.year){
      return -1;
    }else{
      return 0;
    }
  }
}
```

```java
public class Main {

  public static void main(String[] args) {

    Set<Book> set=new TreeSet<Book>(new IdComparator());

    Book b1=new Book(121,"El libro vaquero","Jordi Soler"
    , "Novedades Editores", 1978);
    Book b2=new Book(233,"Kalimán","Galvin","Armando Couto",1963);
    Book b3=new Book(101,"Fantomas, la amenaza elegante"
    , "Rosa María Phillips","Editorial Novaro",1967);

    set.add(b1);
    set.add(b2);
    set.add(b3);

    for(Book b:set){
      System.out.println(b.id+" "+b.name+" "+b.author+" "
      +b.publisher+" "+b.year);
    }
  }
}
```