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Class JavaSet<T extends java.lang.Comparable<T>>

- java.lang.Object
- JavaSet<T>
- Type Parameters:
 - T The type of elements in the set, must extend Comparable for sorting.

All Implemented Interfaces:

javaContainer<T>

public class JavaSet<T extends java.lang.Comparable<T>>
extends java.lang.Object
implements javaContainer<T>

A generic set implementation that supports adding, removing, and iterating over elements.

constructor Summary

Constructors

Constructor Description

<u>JavaSet()</u> Constructs an empty set with an initial capacity of 10.

Method Summary

All Methods Static Methods Instance Methods Concrete Methods

Modifier and Type	Method	Description
void	<pre>add(T element)</pre>	Adds the specified element to the set if it is not already present.
boolean	<pre>equals(java.lang.Object obj</pre>)
<pre>MyIterator<t></t></pre>	<pre>getIterator()</pre>	Returns an iterator over the elements in the set.
int	hashCode()	
static void	<u>main</u> (java.lang.String[] args)	The main method to interactively test the JavaSet.
void	$\underline{\text{remove}}(\underline{T} \text{ element})$	Removes the specified element from the set.
int	<pre>size()</pre>	
java.lang.String	<pre>toString()</pre>	

Methods inherited from class java.lang.Object

 ${\tt clone,\ finalize,\ getClass,\ notify,\ notifyAll,\ wait,\ wait,\ wait}$

• • Constructor Detail

JavaSet

```
public JavaSet()
```

Constructs an empty set with an initial capacity of 10.

Method Detail

add

```
public void add(I element)
```

Adds the specified element to the set if it is not already present. Elements are added in sorted order.

Specified by:

```
add in interface javaContainer<T extends java.lang.Comparable<T>>
```

Parameters:

element - The element to be added to the set.

Throws:

java.lang.IllegalStateException - If the element is already present in the set.

remove

```
public void remove(\underline{\mathsf{T}} element)
```

Removes the specified element from the set.

Specified by:

remove in interface javaContainer<T extends java.lang.Comparable<T>>

Parameters:

element - The element to be removed from the set.

Throws:

java.util.NoSuchElementException - If the element is not found in the set.

size

```
public int size()
Specified by:
     size in interface javaContainer<T extends java.lang.Comparable<T>>
```

getIterator

```
public MyIterator<T> getIterator()
```

Returns an iterator over the elements in the set.

Specified by:

getIterator in interface javaContainer<T extends java.lang.Comparable<T>> Returns:

An iterator.

equals

```
public boolean equals(java.lang.Object obj)
Overrides:
```

```
equals in class java.lang.Object
```

toString

```
public java.lang.String toString()
Overrides:
     toString in class java.lang.Object
```

hashCode

```
public int hashCode()
Overrides:
    hashCode in class java.lang.Object
```

main

public static void main(java.lang.String[] args)

The main method to interactively test the JavaSet.

Parameters:

args - The command line arguments (not used).

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