Class JavaSet<T>

java.lang.Object
JavaSet<T>

Type Parameters:
`T` - type of the set

All Implemented Interfaces:
`JavaContainer<T>`

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public class JavaSet<T> extends Object implements JavaContainer<T>
JavaSet

Field Summary

Fields
Modifier and Type
Field
Description
`private Object[]`
`array`
array: set's array
`private int`
`capacity`
capacity: capacity of the set
`private int`
`size`
size: size of the set

Constructor Summary

Constructors
Constructor
Description
`JavaSet(int _capacity)`

constructor creates an empty set sized 0

Method Summary

All Methods | Instance Methods | Concrete Methods

Modifier and Type
Method
Description

`void`
`add(T item)`
adds an element to the set

`private void`
`addCap()`
increases capacity by multiplying it with 2 copies the old array to the new one

`boolean`
`equals(JavaSet<T> other)`
overloaded equals method checks if two sets are equal

`Iterator<T>`
`getIterator()`
returns an iterator for the container

`private boolean`
`isIn(T item)`
checks if the element is in the set

`void`
`printToFile(String filename)`
prints the set to a file

`void`
`remove(T item)`
removes an element from the set

`int`
`size()`
returns the number of elements in the container

`private void`
`sort()`
a bubble sort algorithm to sort the array

`String`
`toString()`

Methods inherited from class java.lang.Object

`clone`, `equals`, `finalize`, `getClass`, `hashCode`, `notify`, `notifyAll`, `wait`, `wait`, `wait`

Field Details

capacity

private int capacity
capacity: capacity of the set

array

private Object[] array
array: set's array

size

private int size
size: size of the set

Constructor Details

JavaSet

public JavaSet(int _capacity)
constructor creates an empty set sized 0

Parameters:
`_capacity` - capacity of the set

Method Details

equals

public boolean equals(JavaSet<T> other)
overloaded equals method checks if two sets are equal

Parameters:
`other` - other set
Returns:
true if they are equal

printToFile

public void printToFile(String filename)
prints the set to a file

Parameters:
`filename` - name of the file, .txt will be added automatically

sort

private void sort()
a bubble sort algorithm to sort the array

addCap

private void addCap()
increases capacity by multiplying it with 2 copies the old array to the new one

add

public void add(T item)
adds an element to the set

Specified by:
`add` in interface `JavaContainer<T>`
Parameters:
`item` - element to be added

remove

public void remove(T item)
removes an element from the set

Specified by:
`remove` in interface `JavaContainer<T>`
Parameters:
`item` - element to be removed

size

public int size()
Description copied from interface: `JavaContainer`
returns the number of elements in the container

Specified by:
`size` in interface `JavaContainer<T>`
Returns:
size of the set

getIterator

public Iterator<T> getIterator()
Description copied from interface: `JavaContainer`
returns an iterator for the container

Specified by:
`getIterator` in interface `JavaContainer<T>`
Returns:
iterator of the set

isIn

private boolean isIn(T item)
checks if the element is in the set

Parameters:
`item` - element to be checked
Returns:
true if the element is in the set

toString

public String toString()

Overrides:
`toString` in class `Object`
Returns:
string representation of the set