**Difference between HashSet and TreeSet**

[**JAVA.UTIL PACKAGE**](http://beginnersbook.com/category/java-util-package/)

In this article we are gonna discuss the differences betweenHashSet and TreeSet.

**HashSet vs TreeSet**

1) **[HashSet](http://beginnersbook.com/2013/12/hashset-class-in-java-with-example/" \o "HashSet Class in Java with example" \t "_blank)** gives better performance (faster) than **[TreeSet](http://beginnersbook.com/2013/12/treeset-class-in-java-with-example/" \o "TreeSet Class in Java with example" \t "_blank)** for the operations like add, remove, contains, size etc. HashSet offers constant time cost while TreeSet offers log(n) time cost for such operations.

2) HashSet does not maintain any order of elements while TreeSet elements are sorted in ascending order by default.

**Similarities**:

1) Both HashSet and TreeSet does not hold duplicate elements, which means both of these are duplicate free.

2) If you want a sorted Set then it is better to add elements to HashSet and then [**convert it into TreeSet**](http://beginnersbook.com/2014/08/how-to-convert-a-hashset-to-a-treeset/) rather than creating a TreeSet and adding elements to it.

3) Both of these classes are non-synchronized that means they are not thread-safe and should be synchronized explicitly when there is a need of thread-safe operations.

**Examples:**

**HashSet example**

import java.util.HashSet;

class HashSetDemo{

public static void main(String[] args) {

// Create a HashSet

HashSet<String> hset = new HashSet<String>();

//add elements to HashSet

hset.add("Abhijeet");

hset.add("Ram");

hset.add("Kevin");

hset.add("Singh");

hset.add("Rick");

// Duplicate removed

hset.add("Ram");

// Displaying HashSet elements

System.out.println("HashSet contains: ");

for(String temp : hset){

System.out.println(temp);

}

}

}

**Output:**

HashSet contains:

Rick

Singh

Ram

Kevin

Abhijeet

**TreeSet example**

import java.util.TreeSet;

class TreeSetDemo{

public static void main(String[] args) {

// Create a TreeSet

TreeSet<String> tset = new TreeSet<String>();

//add elements to TreeSet

tset.add("Abhijeet");

tset.add("Ram");

tset.add("Kevin");

tset.add("Singh");

tset.add("Rick");

// Duplicate removed

tset.add("Ram");

// Displaying TreeSet elements

System.out.println("TreeSet contains: ");

for(String temp : tset){

System.out.println(temp);

}

}

}

**Output:** Elements are sorted in ascending order.

TreeSet contains:

Abhijeet

Kevin

Ram

Rick

Singh