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Hashmap vs WeakHashMap in Java HashMap

Java.util.HashMap class is a Hashing based implementation. In HashMap, we have a key and a value pair.

Even though the object is specified as key in hashmap, it does not have any reference and it is not eligible for garbage collection if it is associated with HashMap i.e. HashMap dominates over Garbage Collector.

```
import java.util.*;
class HashMapDemo
   public static void main(String args[])throws Exception
       HashMap m = new HashMap();
       Demo d = new Demo();
       // puts an entry into HashMap
       m.put(d," Hi ");
       System.out.println(m);
       d, = bulle concern is carre
       System.gc();
       //thread sleeps for 4 sec
       Thread.sleep(4000);
       System.out.println(m);
   class Demo
       public String toString()
            return "demo";
       // finalize method
        public void finalize()
           System.out.println("Finalize method is called");
```

{demo=Hi} {demo=Hi}

Output:

class WeakHashMapDemo

except in case of WeakHashMap, if object is specified as key doesn't contain any references- it is eligible for garbage collection even though it is associated with WeakHashMap. i.e Garbage Collector

WeakHashMap

WeakHashMap is an implementation of the Map interface. WeakHashMap is almost same as HashMap

dominates over WeakHashMap. // Java program to illustrate // WeakHashmap import java.util.*;

public static void main(String args[])throws Exception

WeakHashMap m = new WeakHashMap();

Demo d = **new** Demo();

```
// puts an entry into WeakHashMap
             m.put(d," Hi ");
             System.out.println(m);
             d = null;
             // garbage collector is called
             System.gc();
             // thread sleeps for 4 sec
             Thread.sleep(4000); .
             System.out.println(m);
     class Demo
         public String toString()
             return "demo";
         // finalize method
         public void finalize()
             System.out.println("finalize method is called");
Output:
```

Some more important differences between Hashmap and WeakHashmap:

```
1. Strong vs Weak References: Weak Reference Objects are not the default type/class of Reference
  Object and they should be explicitly specified while using them. This type of reference is used in
```

 $\{demo = Hi\}$

finalize method is called

active strong reference are not eligible for garbage collection. In HashMap, key objects have

WeakHashMap to reference the entry objects.

, in other words, garbage collected.

strong reference. 2. Role of Garbage Collector: Garbage Collected : In HashMap , entry object(entry object stores keyvalue pairs) is not eligible for garbage collection i.e Hashmap is dominant over Garbage Collector. In WeakHashmap, wWhen a key is discarded then its entry is automatically removed from the map

Strong References: This is the default type/class of Reference Object. Any object which has an

3. Clone method Implementation: HashMap implements Cloneable interface... WeakHashMap does not implement Cloneable interface, it only implements Map interface. Hence , there is no clone() method in the WeakHashMap class.

other Geeks. Please write comments if you find anything incorrect, or you want to share more information about the topic discussed above.

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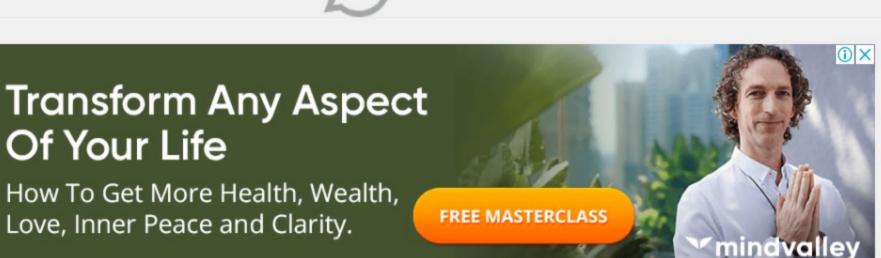
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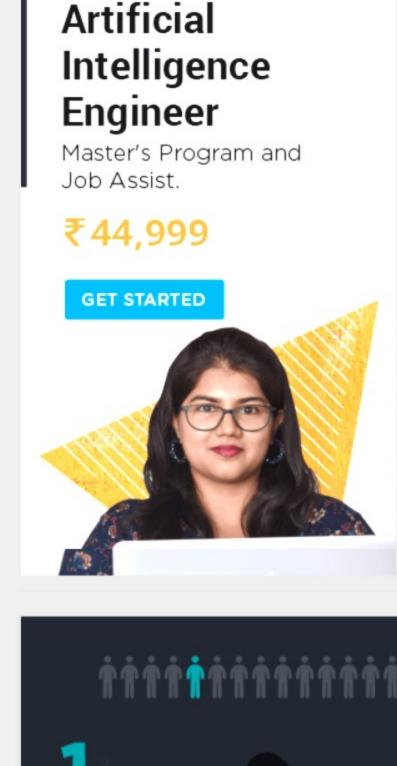
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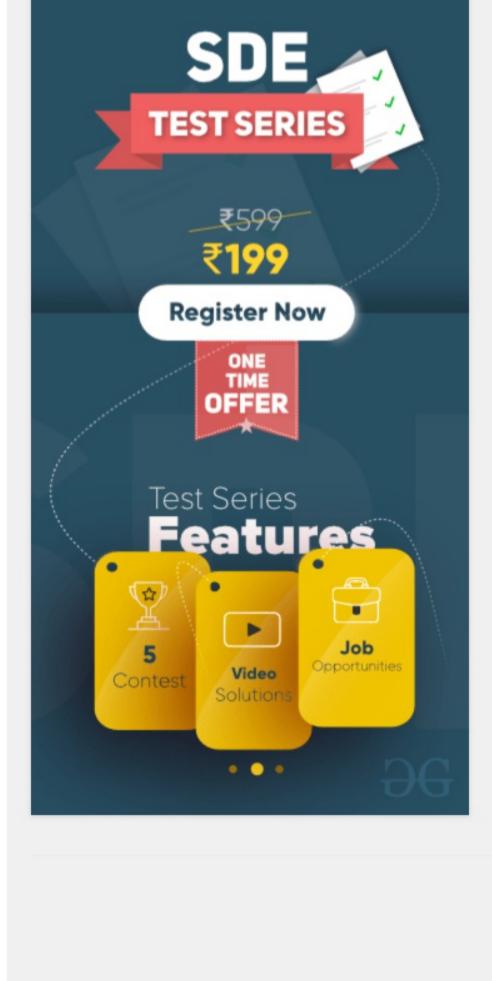
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