**Difference between Comparable and Comparator**

Comparable and Comparator both are interfaces and can be used to sort collection elements.

But there are many differences between Comparable and Comparator interfaces that are given below.

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| **Comparable** | **Comparator** |
| 1) Comparable provides **single sorting sequence**. In other words, we can sort the collection on the basis of single element such as id or name or price etc. | Comparator provides **multiple sorting sequence**. In other words, we can sort the collection on the basis of multiple elements such as id, name and price etc. |
| 2) Comparable **affects the original class** i.e. actual class is modified. | Comparator **doesn't affect the original class** i.e. actual class is not modified. |
| 3) Comparable provides **compareTo() method** to sort elements. | Comparator provides **compare() method** to sort elements. |
| 4) Comparable is found in **java.lang** package. | Comparator is found in **java.util** package. |
| 5) We can sort the list elements of Comparable type by**Collections.sort(List)** method. | We can sort the list elements of Comparator type by**Collections.sort(List,Comparator)** method. |

**Difference between ArrayList and LinkedList**

ArrayList and LinkedList both implements List interface and maintains insertion order. Both are non synchronized classes.

But there are many differences between ArrayList and LinkedList classes that are given below.

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| --- | --- |
| **ArrayList** | **LinkedList** |
| 1) ArrayList internally uses **dynamic array** to store the elements. | LinkedList internally uses **doubly linked list** to store the elements. |
| 2) Manipulation with ArrayList is **slow** because it internally uses array. If any element is removed from the array, all the bits are shifted in memory. | Manipulation with LinkedList is **faster** than ArrayList because it uses doubly linked list so no bit shifting is required in memory. |
| 3) ArrayList class can **act as a list** only because it implements List only. | LinkedList class can **act as a list and queue** both because it implements List and Deque interfaces. |
| 4) ArrayList is **better for storing and accessing** data. | LinkedList is **better for manipulating** data. |

**Difference between HashMap and Hashtable**

HashMap and Hashtable both are used to store data in key and value form. Both are using hashing technique to store unique keys.

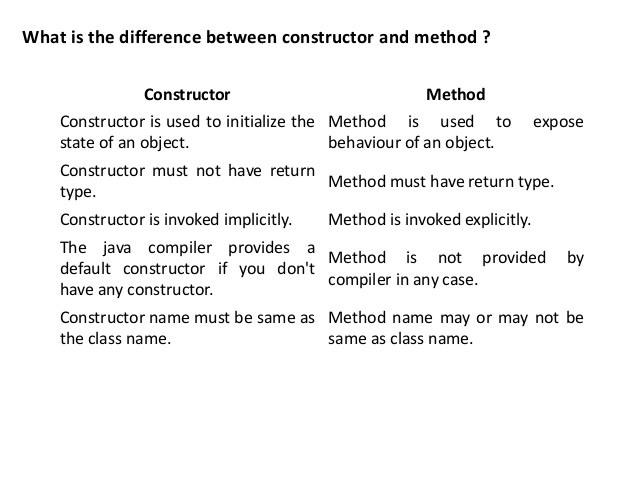
But there are many differences between HashMap and Hashtable classes that are given below.

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| **HashMap** | **Hashtable** |
| 1) HashMap is **non synchronized**. It is not-thread safe and can't be shared between many threads without proper synchronization code. | Hashtable is **synchronized**. It is thread-safe and can be shared with many threads. |
| 2) HashMap **allows one null key and multiple null values**. | Hashtable **doesn't allow any null key or value**. |
| 3) HashMap is a **new class introduced in JDK 1.2**. | Hashtable is a **legacy class**. |
| 4) HashMap is **fast**. | Hashtable is **slow**. |
| 5) We can make the HashMap as synchronized by calling this code Map m = Collections.synchronizedMap(hashMap); | Hashtable is internally synchronized and can't be unsynchronized. |
| 6) HashMap is **traversed by Iterator**. | Hashtable is **traversed by Enumerator and Iterator**. |
| 7) Iterator in HashMap is **fail-fast**. | Enumerator in Hashtable is **not fail-fast**. |
| 8) HashMap inherits **AbstractMap** class. | Hashtable inherits **Dictionary** class. |

**Difference between Abstract class and Interfaces**

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| Abstract class | Interface |
| Abstract class can have abstract and non-abstract methods. | Interface can have **only abstract** methods. |
| Abstract class doesn't support multiple inheritance. | Interface **supports multiple inheritance**. |
| Abstract class can have final, non-final, static and non-static variables. | Interface has **only static and final variables**. |
| Abstract class can have static methods, main method and constructor. | Interface **can't have static methods, main method or constructor**. |
| Abstract class can provide the implementation of interface. | Interface **can't provide the implementation of abstract class**. |
| The abstract keyword is used to declare abstract class. | The **interface keyword** is used to declare interface. |
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**Difference between Method class and Constructors**

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