\*One common diff also is that hashtable not allowed any null keys or any null value where as hashmap can have one null key and any more null values.

•Hash table and linked list implementation of the Map interface, with predictable iteration order.

•Permits null values and the null key.

•maintains a doubly-linked.

•not synchronized

**HashMap:**

Hash table based implementation of the Map interface.

Permits null values and the null key.not synchronized

Default initial Capacity is 16 and default load Factor is 0.75.

Internally useus hashCode() and equals() method. (Will cover hashCode and equals methods in coming slides)

**It takes only one null key and n number of null values.**

**It does not all duplicate values, if you try to insert the same key again and some values it gives latest key value for it**.

**HashTable:**

This class implements a hashtable, which maps keys to values.

•Any non-null object can be used as a key or as a value.

•Is synchronized.

•To successfully store and retrieve objects from a hashtable, the objects used as keys must implement the hashCode method and the equals’ method. (Will cover hashCode and equals methods in coming slides)

•Default initial Capacity is 11 and default load Factor is 0.75.

**It does not allow the null key and null values in it**

**LinkedHashMap:**

Hash table and linked list implementation of the Map interface, with predictable iteration order.

•Permits null values and the null key.

•maintains a doubly-linked.

•not synchronized

**It takes only one null key and n number of null values.**

**It does not all duplicate values, if you try to insert the same key again and some values it gives latest key value for it**.

**Insertion Ordered is preserved.**

**TreeMap:**

•The map is sorted according to the natural ordering of its keys, or by a Comparator provided at map creation time.

•not synchronized.

•Null key not allowed.

•Slow.

•Can create TreeMap in following ways,

Map h = new TreeMap();

Map h = new TreeMap(Comparator c) ;

Map h = new TreeMap(Map m);

**It does not allow null key but allows multiple null values in it.**

**Throws** java.lang.ClassCastException

Eg: employee object

If user defined object does not implements comparable interface in it.