| **Property** | **HashMap** | **Hashtable** | **ConcurrentHashMap** |
| --- | --- | --- | --- |
| **Null values/keys** | allowed | not allowed | not allowed |
| **thread-safe** | no | yes | yes |
| **Lock mechanism** | not applicable | locks the whole map | locks the portion |
| **Iterator** | fail-fast | fail-fast | fail-safe |

**fail-fast** iterators immediately throw **ConcurrentModificationException** if a **collection is modified while iterating** over it. Whereas **fail-safe** iterators **don’t throw** any **exceptions** if a collection is modified while iterating over it. Because, they **operate on the clone of the collection**, not on the actual collection.