Java LinkedHashMap class



Java LinkedHashMap class is Hashtable and Linked list implementation of the Map interface, with predictable iteration order. It inherits HashMap class and implements the Map interface.

Points to remember

* Java LinkedHashMap contains values based on the key.
* Java LinkedHashMap contains unique elements.
* Java LinkedHashMap may have one null key and multiple null values.
* Java LinkedHashMap is non synchronized.
* Java LinkedHashMap maintains insertion order.
* The initial default capacity of Java HashMap class is 16 with a load factor of 0.75.

LinkedHashMap class declaration

Let's see the declaration for java.util.LinkedHashMap class.

1. **public** **class** LinkedHashMap<K,V> **extends** HashMap<K,V> **implements** Map<K,V>

LinkedHashMap class Parameters

Let's see the Parameters for java.util.LinkedHashMap class.

* **K**: It is the type of keys maintained by this map.
* **V**: It is the type of mapped values.

Constructors of Java LinkedHashMap class

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| **Constructor** | **Description** |
| LinkedHashMap() | It is used to construct a default  LinkedHashMap. |
| LinkedHashMap(int capacity) | It is used to initialize a  LinkedHashMap with the given  capacity. |
| LinkedHashMap(int capacity, float loadFactor) | It is used to initialize both the  capacity and the load factor. |
| LinkedHashMap(int capacity, float loadFactor, boolean accessOrder) | It is used to initialize both the  capacity and the load factor with  specified ordering mode. |
| LinkedHashMap(Map<? extends K,? extends V> m) | It is used to initialize the LinkedHashMap with the elements from the given Map class m. |

Methods of Java LinkedHashMap class

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| **Method** | **Description** |
| V get(Object key) | It returns the value to which the  specified key is mapped. |
| void clear() | It removes all the key-value pairs  from a map. |
| boolean containsValue(Object value) | It returns true if the map maps one  or more keys to the specified value. |
| Set<Map.Entry<K,V>> entrySet() | It returns a Set view of the mappings  contained in the map. |
| void forEach(BiConsumer<? super K,? super V> action) | It performs the given action for each  entry in the map until all entries have been processed or the action throws an exception. |
| V getOrDefault(Object key, V defaultValue) | It returns the value to which the specified  key is mapped or defaultValue if this map  contains no mapping for the key. |
| Set<K> keySet() | It returns a Set view of the keys contained  in the map |
| protected boolean removeEldestEntry(Map.Entry<K,V> eldest) | It returns true on removing its eldest entry. |
| void replaceAll(BiFunction<? super K,? super V,? extends V> function) | It replaces each entry's value with the  result of invoking the given function  on that entry until all entries have been processed or the function throws an  exception. |
| Collection<V> values() | It returns a Collection view  of the values contained in this  map. |

Java LinkedHashMap Example

1. **import** java.util.\*;
2. **class** LinkedHashMap1{
3. **public** **static** **void** main(String args[]){
5. LinkedHashMap<Integer,String> hm=**new** LinkedHashMap<Integer,String>();
7. hm.put(100,"Amit");
8. hm.put(101,"Vijay");
9. hm.put(102,"Rahul");
11. **for**(Map.Entry m:hm.entrySet()){
12. System.out.println(m.getKey()+" "+m.getValue());
13. }
14. }
15. }

Output:100 Amit

101 Vijay

102 Rahul

Java LinkedHashMap Example: Key-Value pair

1. **import** java.util.\*;
2. **class** LinkedHashMap2{
3. **public** **static** **void** main(String args[]){
4. LinkedHashMap<Integer, String> map = **new** LinkedHashMap<Integer, String>();
5. map.put(100,"Amit");
6. map.put(101,"Vijay");
7. map.put(102,"Rahul");
8. //Fetching key
9. System.out.println("Keys: "+map.keySet());
10. //Fetching value
11. System.out.println("Values: "+map.values());
12. //Fetching key-value pair
13. System.out.println("Key-Value pairs: "+map.entrySet());
14. }
15. }

Keys: [100, 101, 102]

Values: [Amit, Vijay, Rahul]

Key-Value pairs: [100=Amit, 101=Vijay, 102=Rahul]

Java LinkedHashMap Example:remove()

1. **import** java.util.\*;
2. **public** **class** LinkedHashMap3 {
3. **public** **static** **void** main(String args[]) {
4. Map<Integer,String> map=**new** LinkedHashMap<Integer,String>();
5. map.put(101,"Amit");
6. map.put(102,"Vijay");
7. map.put(103,"Rahul");
8. System.out.println("Before invoking remove() method: "+map);
9. map.remove(102);
10. System.out.println("After invoking remove() method: "+map);
11. }
12. }

Output:

Before invoking remove() method: {101=Amit, 102=Vijay, 103=Rahul}

After invoking remove() method: {101=Amit, 103=Rahul}

Java LinkedHashMap Example: Book

1. **import** java.util.\*;
2. **class** Book {
3. **int** id;
4. String name,author,publisher;
5. **int** quantity;
6. **public** Book(**int** id, String name, String author, String publisher, **int** quantity) {
7. **this**.id = id;
8. **this**.name = name;
9. **this**.author = author;
10. **this**.publisher = publisher;
11. **this**.quantity = quantity;
12. }
13. }
14. **public** **class** MapExample {
15. **public** **static** **void** main(String[] args) {
16. //Creating map of Books
17. Map<Integer,Book> map=**new** LinkedHashMap<Integer,Book>();
18. //Creating Books
19. Book b1=**new** Book(101,"Let us C","Yashwant Kanetkar","BPB",8);
20. Book b2=**new** Book(102,"Data Communications & Networking","Forouzan","Mc Graw Hill",4);
21. Book b3=**new** Book(103,"Operating System","Galvin","Wiley",6);
22. //Adding Books to map
23. map.put(2,b2);
24. map.put(1,b1);
25. map.put(3,b3);
27. //Traversing map
28. **for**(Map.Entry<Integer, Book> entry:map.entrySet()){
29. **int** key=entry.getKey();
30. Book b=entry.getValue();
31. System.out.println(key+" Details:");
32. System.out.println(b.id+" "+b.name+" "+b.author+" "+b.publisher+" "+b.quantity);
33. }
34. }
35. }

Output:

2 Details:

102 Data Communications & Networking Forouzan Mc Graw Hill 4

1 Details:

101 Let us C Yashwant Kanetkar BPB 8

3 Details:

103 Operating System Galvin Wiley 6