**Hashmap:**

**1. How to initialize a map with key as string and value as Integer?**

HashMap<String, Integer> map = **new** HashMap<>();

**2. How to add and remove elements from Hashmap?**

Add Elements:

                          map.put("james", 10);

        map.put("sidharth", 30);

        map.put("shukla", 20);

Remove Elements:

        map.remove("vishal", 10);

**3. How to iterate through hashmap?**

**for** (Map.Entry<String, Integer> e : map.entrySet())

            System.***out***.println("Key: " + e.getKey()

                               + " Value: " + e.getValue());

    }

**4. Does hashmap allow duplicate key and values?**

**Ans:**

Hashmap doesnt allow duplicate key, but allows duplicate values

**5. Does hashmap allow null key and values for Hashmap?**

**Ans:**  
hashmap allows null key but only once,multiple null values supported

**6. How to sort Hashmap in Java?**

[Click Here For The Answer](https://automationreinvented.blogspot.com/2019/03/how-to-sort-hashmap-sorting-with.html)

**7. Do hashmap is thread safe?**

**Ans**: Hashmap is not thread safe as it is not synchronized

**8. Does hashmap maintain insertion order?**

**Ans**: Hashmap doesn't maintain insertion order, but Treemap/LinkedhashMap maintains the insertion order.

**9. Which method helps to get all the keys in hashmap?**

* keyset(): Returns a [Set](eclipse-javadoc:%E2%98%82=JavaConcept/%5C/Library%5C/Java%5C/JavaVirtualMachines%5C/jdk-11.0.10.jdk%5C/Contents%5C/Home%5C/lib%5C/jrt-fs.jar%60java.base=/module=/true=/=/javadoc_location=/https:%5C/%5C/docs.oracle.com%5C/en%5C/java%5C/javase%5C/11%5C/docs%5C/api%5C/=/%3Cjava.util(HashMap.class%E2%98%83HashMap~keySet%E2%98%82Set) view of the keys contained in this map

....> HashMap<String, Integer> map = **new** HashMap<>();

....>  map.keyset();

"[**String Question and Answers**](https://automationreinvented.blogspot.com/2022/01/what-we-know-about-string-mcq-on-string.html)" **<== Click**

**10. How to replace value in hashmap?**

with replace():Replaces the entry for the specified key only if it is currently mapped to some value

HashMap<String, Integer> map = **new** HashMap<>();

map.put("james", 10);

map.replace("james", 50);

**11.  What is Hashmap?**

- Part of Collection Framework

- Implements Map interface

- There are 4 main fields are Hash , Key , Value , Node

**12. How to find duplicate elements using Hashmap ?**

[Click here for Answer With Code](https://automationreinvented.blogspot.com/2018/07/find-duplicate-elements-and-count-in.html)

**13. Difference between Hashmap and Hashtable?**

**Hashtable:**

Hashtable is **synchronized**. It is thread-safe

Hashtable **doesn't allow any null key or value**.

Hashtable inherits from **Dictionary** class.

**Hashmap:**

HashMap is **non synchronized**.It is not-thread safe.

HashMap **allows one null key and multiple null values**.

HashMap inherits from **AbstractMap** class.

**Arrays:**

* How to declare an array?

**int tests[];**

* How to create an array?

**tests= new int[5];**

* How to declare 2d array?

**int[][] matrix;**

* How to create 2d array?

**int[][] matrix = { { 1, 2, 3 }, { 4, 5, 6 } };**

* How to Assign values to array

        tests[0] = 25;  
        tests[1] = 30;  
        tests[2] = 50;  
        tests[3] = 10;  
        tests[4] = 5;

* How to  Declare, Create and Initialize Array on same line

**int tests[] = { 25, 30, 50, 10, 5 };**

* How to loop around an array - Enhanced for loop

 **for (int mark : marks) {  
            System.out.println(mark);  
        }**

* How to get Length of an array : Property length

**int length = tests.length;**

* How to do Sorting An Array?

**int rollnumbers[] = { 12, 5, 7, 9 };**  
 **Arrays.sort(rollnumbers);**

* How to create String Array?

**String[] daysWeek = { "Sunday", "Monday", "Tuesday", "Wednesday",  
                "Thursday", "Friday", "Saturday" };**

**Arraylist:**

Let assume we have below arraylist:  
ArrayList<String> arrlst = new ArrayList<>();

* **How to convert List to array and array to list?**

[**Click here for Answer**](https://automationreinvented.blogspot.com/2020/08/top-11-interview-question-on-java-for.html)

* **How to remove a SubList from a List in Java ?**  
  **Ans**: List.subList(int fromIndex, int toIndex).clear()
* **How to do Sorting of An Array?**[**Click Here For Answer**](https://automationreinvented.blogspot.com/2020/03/top-10-interview-questions-on-array-for.html)
* **Difference between ArrayList and HashMap in Java?**==>ArrayList implement List Interface while HashMap is an implementation of Map interface.  
  **==>**ArrayList maintains the insertion order while HashMap does not maintain insertion order.  
  **==>**ArrayList allows duplicate elements while HashMap doesn’t allow duplicate keys but does allow duplicate values.
* **How to add element  to arrlst?**

**Ans**: arrlst.add(element);

* **Does list maintains insertion order?  
    
  Ans:**Both the ArrayList and LinkedList maintain the elements insertion order which means while displaying ArrayList and LinkedList elements the result set would be having the same order in which the elements got inserted into the List.  
    
  [**Top Kubernetes Commands-Click Here**](https://automationreinvented.blogspot.com/search/label/Kubernetes)
* **How to get length of Array and List?**

[**Click Here For Answer**](https://automationreinvented.blogspot.com/2020/08/top-11-interview-question-on-java-for.html)

* **How to add element at any index?**

**Ans**: arr.add(index,element);

* **Difference between ArrayList and LinkedList?  
  Ans:**[**Click here for answer with explanation**](https://automationreinvented.blogspot.com/2019/11/top-5-differences-between-arraylist-and.html)
* **How to get element or index in arrlst?**  
  Ans: arr.get(element);  
           arr.get(index);
* **How to  Declare, Create and Initialize Array on same line**

[**Click Here For Answer**](https://automationreinvented.blogspot.com/2020/03/top-10-interview-questions-on-array-for.html)

* **How to remove element and index in arrlst?**  
  **Ans**: arr.remove(element); //returns boolean value  
           arr.remove(index);//returns boolean value[**Know About DevOps**](https://automationreinvented.blogspot.com/search/label/Devops)
* **How to get duplicate elements in an array?Very Imp**

[**Click Here For Code**](https://automationreinvented.blogspot.com/2019/03/how-to-get-count-of-elements-in-array.html)

* **How to set a specified value to a specified index of arrlst?**  
  **Ans**: arr.set(index,element);
* **Difference between an array and an ArrayList in Java?**  
  **Ans**:  The main difference between array and ArrayList is that the array is static and the arraylist is dynamic. We cannot change the size of the array once created, but ArrayList can increase its size automatically.

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**Bonus Questions:  
--> Difference between arraylist and linkedlist?**[**Click Here For Answer**](https://automationreinvented.blogspot.com/2019/11/top-5-differences-between-arraylist-and.html)

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**Java String Functions List**

* length()
* isEmpty(), isBlank()
* charAt()
* getChars(), toCharArray()
* getBytes()
* equals(), hashCode() and equalsIgnoreCase()
* contentEquals()
* compareTo() and compareToIgnoreCase()
* startsWith() and endsWith()
* indexOf() and lastIndexOf()
* substring() and subSequence()
* concat()
* matches()
* replace(), replaceFirst(), and replaceAll()
* contains()
* split()
* join()
* toLowerCase() and toUpperCase()
* trim(), strip(), stripLeading(), and stripTrailing()
* lines()
* indent()
* transform()
* format()
* intern()
* valueOf() and copyValueOf()
* repeat()
* describeConstable() and resolveConstantDesc()
* formatted(), stripIndent(), and translateEscapes()

### List Methods In Java

**The following table shows various functions provided by the list interface in Java.**

| **List method** | **Method Prototype** | **Description** |
| --- | --- | --- |
| size | int size () | Returns the size of the list i.e. number of elements in the List or the length of the list. |
| clear | void clear () | Clears the list by removing all the elements in the list |
| add | void add (int index, Object element) | Adds the given element to the list at the given index |
| boolean add (Object o) | Adds the given element at the end of the list |
| addAll | boolean addAll (Collection c) | Appends the entire given collection to the end of the list |
| boolean addAll (int index, Collection c) | Inserts the given collection(all elements) to the list at the specified index |
| contains | boolean contains (Object o) | Checks if the specified element is present in the list and returns true if present |
| containsAll | boolean containsAll (Collection c) | Checks if the specified collection (all elements) is part of the list. Returns true of yes. |
| equals | boolean equals (Object o) | Compares the specified object for equality with elements of the list |
| Get | Object get (int index) | Returns the element in the list specified by index |
| hashCode | int hashCode () | Returns the hash code value of the List. |
| indexOf` | int indexOf (Object o) | Finds the first occurrence of the input element and returns its index |
| isEmpty | boolean isEmpty () | Checks if the list is empty |
| lastIndexOf | int lastIndexOf (Object o) | Finds the last occurrence of the input element in the list and returns its index |
| remove | Object remove (int index) | Removes the element at the specified index |
| boolean remove (Object o) | Removes the element at its first occurrence in the list |
| removeAll | boolean removeAll (Collection c) | Removes all elements contained in the specified collection from the list |
| retainAll | boolean retainAll (Collection c) | Opposite of removeAll. Retains the element specified in the input collection in the list. |
| Set | Object set (int index, Object element) | Changes the element at the specified index by setting it to the specified value |
| subList | List subList (int fromIndex, int toIndex) | Returns sublist of elements between fromIndex(inclusive), and toIndex(exclusive). |
| sort | void sort (Comparator c) | Sorts the list element as per the specified comparator to give an ordered list |
| toArray | Object[] toArray () | Returns array representation of the list |
| Object [] toArray (Object [] a) | Returns the array representation whose runtime type is the same as a specified array argument |
| iterator | Iterator iterator () | Returns an Iterator for the list |
| listIterator | ListIterator listIterator () | Returns a ListIterator for the list |
| ListIterator listIterator (int index) | Returns a ListIterator starting at the specified index in the list |