**Java Collection: Exercises**

## **Java Collection: ArrayList Exercises**

1. Write a Java program to create an array list, add some colors (strings) and print out the collection.

import java.util.\*;

public class Exercise1 {

public static void main(String[] args) {

List<String> list\_Strings = new ArrayList<String>();

list\_Strings.add("Red");

list\_Strings.add("Green");

list\_Strings.add("Orange");

list\_Strings.add("White");

list\_Strings.add("Black");

System.out.println(list\_Strings);

}

}

**2.** Write a Java program to iterate through all elements in an array list.

import java.util.\*;

public class Exercise2 {

public static void main(String[] args) {

// Creae a list and add some colors to the list

List<String> list\_Strings = new ArrayList<String>();

list\_Strings.add("Red");

list\_Strings.add("Green");

list\_Strings.add("Orange");

list\_Strings.add("White");

list\_Strings.add("Black");

// Print the list

for (String element : list\_Strings) {

System.out.println(element);

}

}

}

**3.** Write a Java program to insert an element into the array list at the first position.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-3.php)

**4.** Write a Java program to retrieve an element (at a specified index) from a given array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-4.php)

**5.** Write a Java program to update an array element by the given element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-5.php)

**6.** Write a Java program to remove the third element from an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-6.php)

**7.** Write a Java program to search for an element in an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-7.php)

**8.** Write a Java program to sort a given array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-8.php)

**9.** Write a Java program to copy one array list into another.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-9.php)

**10.** Write a Java program to shuffle elements in an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-10.php)

**11.** Write a Java program to reverse elements in an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-11.php)

**12.** Write a Java program to extract a portion of an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-12.php)

**13.** Write a Java program to compare two array lists.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-13.php)

**14.** Write a Java program that swaps two elements in an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-14.php)

**15.** Write a Java program to join two array lists.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-15.php)

**16.** Write a Java program to clone an array list to another array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-16.php)

**17.** Write a Java program to empty an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-17.php)

**18.** Write a Java program to test whether an array list is empty or not.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-18.php)

**19.** Write a Java program for trimming the capacity of an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-19.php)

**20.** Write a Java program to increase an array list size.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-20.php)

**21.** Write a Java program to replace the second element of an ArrayList with the specified element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-21.php)

**22.** Write a Java program to print all the elements of an ArrayList using the elements' position.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-exercise-22.php)

## **Java Collection: LinkedList Exercises**

**1.** Write a Java program to append the specified element to the end of a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-1.php)

**2.** Write a Java program to iterate through all elements in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-2.php)

**3.** Write a Java program to iterate through all elements in a linked list starting at the specified position.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-3.php)

**4.** Write a Java program to iterate a linked list in reverse order.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-4.php)

**5.** Write a Java program to insert the specified element at the specified position in the linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-5.php)

**6.** Write a Java program to insert elements into the linked list at the first and last positions.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-6.php)

**7.** Write a Java program to insert the specified element at the front of a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-7.php)

**8.** Write a Java program to insert the specified element at the end of a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-8.php)

**9.** Write a Java program to insert some elements at the specified position into a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-9.php)

**10.** Write a Java program to get the first and last occurrence of the specified elements in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-10.php)

**11.** Write a Java program to display elements and their positions in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-11.php)

**12.** Write a Java program to remove a specified element from a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-12.php)

**13.** Write a Java program to remove the first and last elements from a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-13.php)

**14.** Write a Java program to remove all elements from a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-14.php)

**15.** Write a Java program that swaps two elements in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-15.php)

**16.** Write a Java program to shuffle elements in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-16.php)

**17.** Write a Java program to join two linked lists.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-17.php)

**18.** Write a Java program to copy a linked list to another linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-18.php)

**19.** Write a Java program to remove and return the first element of a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-19.php)

**20.** Write a Java program to retrieve, but not remove, the first element of a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-20.php)

**21.** Write a Java program to retrieve, but not remove, the last element of a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-21.php)

**22.** Write a Java program to check if a particular element exists in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-22.php)

**23.** Write a Java program to convert a linked list to an array list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-23.php)

**24.** Write a Java program to compare two linked lists.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-24.php)

**25.** Write a Java program to check if a linked list is empty or not.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-25.php)

**26.** Write a Java program to replace an element in a linked list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-linked-list-exercise-26.php)

## **Java Collection: HashSet Exercises**

**1.** Write a Java program to append the specified element to the end of a hash set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-1.php)

**2.** Write a Java program to iterate through all elements in a hash list.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-2.php)

**3.** Write a Java program to get the number of elements in a hash set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-3.php)

**4.** Write a Java program to empty an hash set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-4.php)

**5.** Write a Java program to test if a hash set is empty or not.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-5.php)

**6.** Write a Java program to clone a hash set to another hash set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-6.php)

**7.** Write a Java program to convert a hash set to an array.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-7.php)

**8.** Write a Java program to convert a hash set to a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-8.php)

**9.** Write a Java program to find numbers less than 7 in a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-9.php)

**10.** Write a Java program to compare two hash set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-10.php)

**11.** Write a Java program to compare two sets and retain elements that are the same.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-11.php)

**12.** Write a Java program to remove all elements from a hash set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-set-exercise-12.php)

## **Java Collection: TreeSet Exercises**

**1.** Write a Java program to create a tree set, add some colors (strings) and print out the tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-1.php)

**2.** Write a Java program to iterate through all elements in a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-2.php)

**3.** Write a Java program to add all the elements of a specified tree set to another tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-3.php)

**4.** Write a Java program to create a reverse order view of the elements contained in a given tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-4.php)

**5.** Write a Java program to get the first and last elements in a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-5.php)

**6.** Write a Java program to clone a tree set list to another tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-6.php)

**7.** Write a Java program to get the number of elements in a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-7.php)

**8.** Write a Java program to compare two tree sets.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-8.php)

**9.** Write a Java program to find numbers less than 7 in a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-9.php)

**10.** Write a Java program to get the element in a tree set which is greater than or equal to the given element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-10.php)

**11.** Write a Java program to get the element in a tree set less than or equal to the given element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-11.php)

**12.** Write a Java program to get the element in a tree set strictly greater than or equal to the given element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-12.php)

**13.** Write a Java program to get an element in a tree set that has a lower value than the given element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-13.php)

**14.** Write a Java program to retrieve and remove the first element of a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-14.php)

**15.** Write a Java program to retrieve and remove the last element of a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-15.php)

**16.** Write a Java program to remove a given element from a tree set.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-set-exercise-16.php)

## **Java Collection: PriorityQueue Exercises**

**1.** Write a Java program to create a priority queue, add some colors (strings) and print out the elements of the priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-1.php)

**2.** Write a Java program to iterate through all elements in the priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-2.php)

**3.** Write a Java program to add all the elements of a priority queue to another priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-3.php)

**4.** Write a Java program to insert a given element into a priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-4.php)

**5.** Write a Java program to remove all elements from a priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-5.php)

**6.** Write a Java program to count the number of elements in a priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-6.php)

**7.** Write a Java program to compare two priority queues.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-7.php)

**8.** Write a Java program to retrieve the first element of the priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-8.php)

**9.** Write a Java program to retrieve and remove the first element.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-9.php)

**10.** Write a Java program to convert a priority queue to an array containing all its elements.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-10.php)

**11.** Write a Java program to convert a Priority Queue element to string representations.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-11.php)

**12.** Write a Java program to change priorityQueue to maximum priority queue.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-priority-queue-exercise-12.php)

## **Java Collection: HashMap Exercises**

**1.** Write a Java program to associate the specified value with the specified key in a HashMap.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-1.php)

**2.** Write a Java program to count the number of key-value (size) mappings in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-2.php)

**3.** Write a Java program to copy all mappings from the specified map to another map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-3.php)

**4.** Write a Java program to remove all mappings from a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-4.php)

**5.** Write a Java program to check whether a map contains key-value mappings (empty) or not.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-5.php)

**6.** Write a Java program to get a shallow copy of a HashMap instance.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-6.php)

**7.** Write a Java program to test if a map contains a mapping for the specified key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-7.php)

**8.** Write a Java program to test if a map contains a mapping for the specified value.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-8.php)

**9.** Write a Java program to create a set view of the mappings contained in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-9.php)

**10.** Write a Java program to get the value of a specified key in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-10.php)

**11.** Write a Java program to get a set view of the keys contained in this map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-11.php)

**12.** Write a Java program to get a collection view of the values contained in this map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-hash-map-exercise-12.php)

## **Java Collection: TreeMap Exercises**

**1.** Write a Java program to associate the specified value with the specified key in a Tree Map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-1.php)

**2.** Write a Java program to copy Tree Map's content to another Tree Map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-2.php)

**3.** Write a Java program to search for a key in a Tree Map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-3.php)

**4.** Write a Java program to search for a value in a Tree Map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-4.php)

**5.** Write a Java program to get all keys from a Tree Map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-5.php)

**6.** Write a Java program to delete all elements from a Tree Map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-6.php)

**7.** Write a Java program to sort keys in a Tree Map by using a comparator.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-7.php)

**8.** Write a Java program to get a key-value mapping associated with the greatest key and the least key in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-8.php)

**9.** Write a Java program to get the first (lowest) key and the last (highest) key currently in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-9.php)

**10.** Write a Java program to get a reverse order view of the keys contained in a given map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-10.php)

**11.** Write a Java program to get a key-value mapping associated with the greatest key less than or equal to the given key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-11.php)

**12.** Write a Java program to get the greatest key less than or equal to the given key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-12.php)

**13.** Write a Java program to get the portion of a map whose keys are strictly less than a given key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-13.php)

**14.** Write a Java program to get the portion of this map whose keys are less than (or equal to, if inclusive is true) a given key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-14.php)

**15.** Write a Java program to get the least key strictly greater than the given key. Return null if there is no such key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-15.php)

**16.** Write a Java program to get a key-value mapping associated with the greatest key strictly less than the given key. Return null if there is no such key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-16.php)

**17.** Write a Java program to get the greatest key strictly less than the given key. Return null if there is no such key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-17.php)

**18.** Write a Java program to get a NavigableSet view of keys in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-18.php)

**19.** Write a Java program to remove and get a key-value mapping associated with the least key in a map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-19.php)

**20.** Write a Java program to remove and get a key-value mapping associated with the greatest key in this map.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-20.php)

**21.** Write a Java program to get the portion of a map whose keys range from a given key (inclusive) to another key (exclusive).  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-21.php)

**22.** Write a Java program to get the portion of a map whose keys range from a given key to another key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-22.php)

**23.** Write a Java program to get a portion of a map whose keys are greater than or equal to a given key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-23.php)

**24.** Write a Java program to get a portion of a map whose keys are greater than a given key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-24.php)

**25.** Write a Java program to get a key-value mapping associated with the least key greater than or equal to the given key. Return null if there is no such key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-25.php)

**26.** Write a Java program to get the least key greater than or equal to the given key. Returns null if there is no such key.  
[Click me to see the solution](https://www.w3resource.com/java-exercises/collection/java-collection-tree-map-exercise-26.php)