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Java LinkedList

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Java LinkedList

In the previous chapter, you learned about the `ArrayList` class. The `LinkedList` class is almost identical to the `ArrayList`:

Example

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```
// Import the LinkedList class
import java.util.LinkedList;

public class Main {
  public static void main(String[] args) {
    LinkedList<String> cars = new LinkedList<String>();
    cars.add("Volvo");
    cars.add("BMW");
    cars.add("Ford");
    cars.add("Mazda");
    System.out.println(cars);
  }
}
```

Try it Yourself »

ArrayList vs. LinkedList

The `LinkedList` class is a collection which can contain many objects of the same type, just like the `ArrayList`.

The `LinkedList` class has all of the same methods as the `ArrayList` class because they both implement the `List` interface. This means that you can add items, change items, remove items and clear the list in the same way.

However, while the `ArrayList` class and the `LinkedList` class can be used in the same way, they are built very differently.

How the ArrayList works

The `ArrayList` class has a regular array inside it. When an element is added, it is placed into the array. If the array is not big enough, a new, larger array is created to replace the old one and the old one is removed.

How the LinkedList works

The `LinkedList` stores its items in "containers." The list has a link to the first container and each container has a link to the next container in the list. To add an element to the list, the element is placed into a new container and that container is linked to one of the other containers in the list.

When To Use

Use an `ArrayList` for storing and accessing data, and `LinkedList` to manipulate data.

LinkedList Methods

For many cases, the `ArrayList` is more efficient as it is common to need access to random items in the list, but the `LinkedList` provides several methods to do certain operations more efficiently:

Method	Description	Try it
addFirst()	Adds an item to the beginning of the list.	Try it »
addLast()	Add an item to the end of the list	Try it »
removeFirst()	Remove an item from the beginning of the list.	Try it »
removeLast()	Remove an item from the end of the list	Try it »
getFirst()	Get the item at the beginning of the list	Try it »
getLast()	Get the item at the end of the list	Try it »

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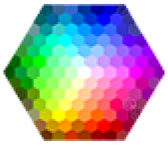

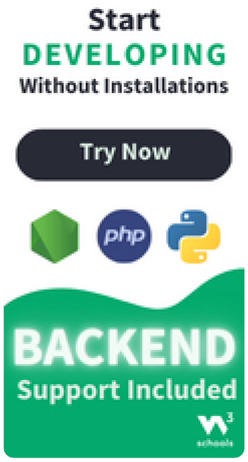

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