Java Array vs Java List

An array is mutable like we can change the value of the array but we cannot change the size of the array , and we saw that while we could set or change values in the array, we couldn't resize the array.

Java gives us several classes that let us add and remove items and resize a sequence of elements.

These classes are said to **implement** a List's behavior.

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So what is a List?

In our everyday life, we use lists all the time.

When we're going to the grocery store, we've got a list.

We have a list of things we need to do, a list of addresses, a list of contact numbers, etc.

It wouldn't be a very useful list, however, if we started with 10 items that could be changed, but then couldn't add or remove an entry from that list.

So what is a List?

A List is a special type in Java, called an Interface.

For now, I'll say a List Interface describes a set of method signatures that all List classes are expected to have.

Let's look at some of these methods. I'm going to pull up the List methods in Java's API documentation page in a browser.

The ArrayList

The ArrayList is a class that maintains an array in memory that's actually bigger than what we need, in most cases.

It keeps track of the capacity or maximum size of the array in memory.

But it also keeps track of the elements that've been assigned or set, which is the size of the ArrayList.

As elements are added to an ArrayList, its capacity may need to grow. This occurs for you automatically, behind the scenes.

This is why the ArrayList is resizeable.