ArrayLists in Java

In this lesson, an explanation of all the basics about the inbuilt ArrayList class in Java is provided.

We'll cover the following

What is an ArrayList?

> *ArrayList* is a `class` in Java which extends the `AbstractList` class and implements the `List` interface.

Why to use ArrayLists?

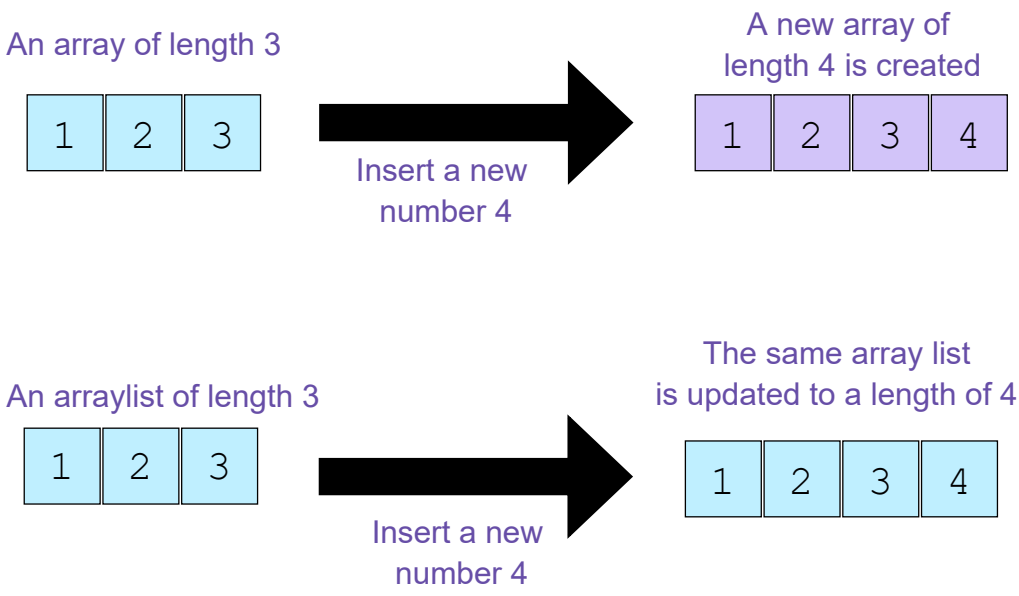
We have already discussed the Arrays in Java. As it has been mentioned earlier that the length of an Array is set at the time of its declaration and cannot be varied later at any point in the program.

For example, if the length of an array is set to **5** at the start of a program it cannot store **more than 5** elements throughout the program. To overcome this, we will then have to declare a `new` array with the length set to some *greater number* and copy the contents of the previous array to this `new` array. Similarly, if this array is used to store **less than 5** elements then the excess allocated space is useless and is a wastage of the *memory resource*.

More often, we are not sure of the total number of data items we are going to store in an array later in the program. So, to overcome the said issue we need a *dynamic* variation in the length of an array according to the required space for the storage of elements. This can be easily achieved using the `ArrayList`.

How does it work?

An ArrayList actually uses an array to store data. Whenever the number of elements to be stored exceeds the `length` of the current array, the contents of this array are copied and pasted into a `new` array of greater size. Hence, the size of an `arrayList` varies dynamically i.e. during the *runtime* of a program.



Going good so far? In the next lesson we will discuss how we can create an Object of ArrayList class.