Head First Java: Chapter 6 Notes

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The ArrayList Pre-Built Class

The `ArrayList` class in Java is a built-in class that offers an enhanced array-object that has functionality similar to lists and other collections in Python. The `ArrayList` class differs from regular Java arrays by:

- The size of the `ArrayList` object is mutable, it does not need to be specified during declaration. Whereas for a regular array the size must be specified when declared. E.g. `new String[2];`
- When adding objects into an `ArrayList`, specifying an index is optional: `myArrayList.add(object);` is valid as is `myArrayList.add(0, object);` In an regular array the index must be specified.
- It is possible to remove elements in an `ArrayList` via the `myArrayList.remove();` method. The size of the `ArrayList` will adjust to the updated size. This is not possible with regular arrays; the most one can do is to set an element to `null`.
- While the type on a regular array needs to be specified during declaration, this is done differently with `ArrayList`. The element type of the `ArrayList` should be *parameterized* during declaration. For example, to declare an `ArrayList` with `String` elements: `ArrayList<String> myArrayList = new ArrayList<String>;`
- The square bracket syntax for regular arrays (e.g. `myArray[0]`) is not used in `Arraylist`. To access specific element by index in an `ArrayList` use the `myArrayList.get();` method.

  To use `ArrayList` in Java, it must be imported via `import java.util.ArrayList`.