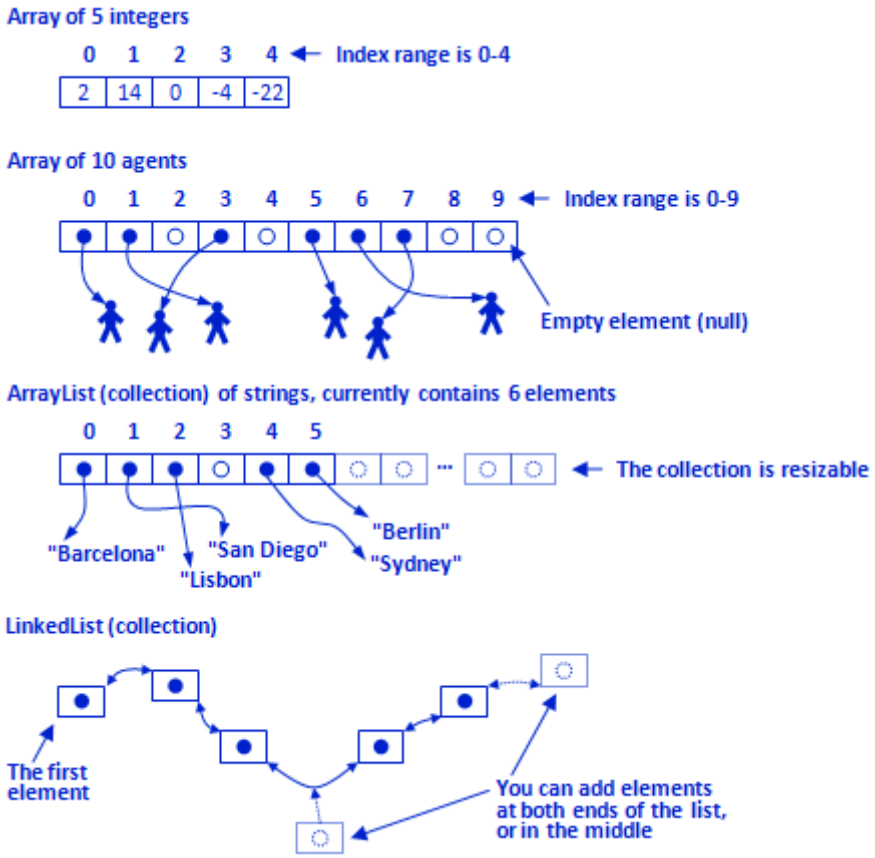
Java arrays and collections

Java offers two types of constructs where you can store multiple values or objects of the same type: arrays and collections (for System Dynamics models AnyLogic also offers `HyperArray`, also known as "subscripts", – a special type of collection for dynamic variables).

Array or collection? Arrays are simple constructs with linear storage of fixed size and therefore they can only store a given number of elements. Arrays are built into the core of Java language and the array-related Java syntax is very easy and straightforward, for example the n^{th} element of the `array` can be obtained as `array[n-1]`. Collections are more sophisticated and flexible. First of all, they are resizable: you can add any number of elements to a collection. A collection will automatically handle deletion of an element from any position. There are several types of collections with different internal storage structure (linear, list, hash set, tree, etc.) and you can choose a collection type best matching your problem so that your most frequent operations will be convenient and efficient. Collections are Java classes and syntax for obtaining, e.g., the n^{th} element of a `collection` of type `ArrayList` is `collection.get(n)`.



Java arrays and collections

Please note that indexes in Java arrays and collections start with 0, not with 1! In an array or collection of size 10 the index of the first element is 0, and the last element has index 9.