Collections:

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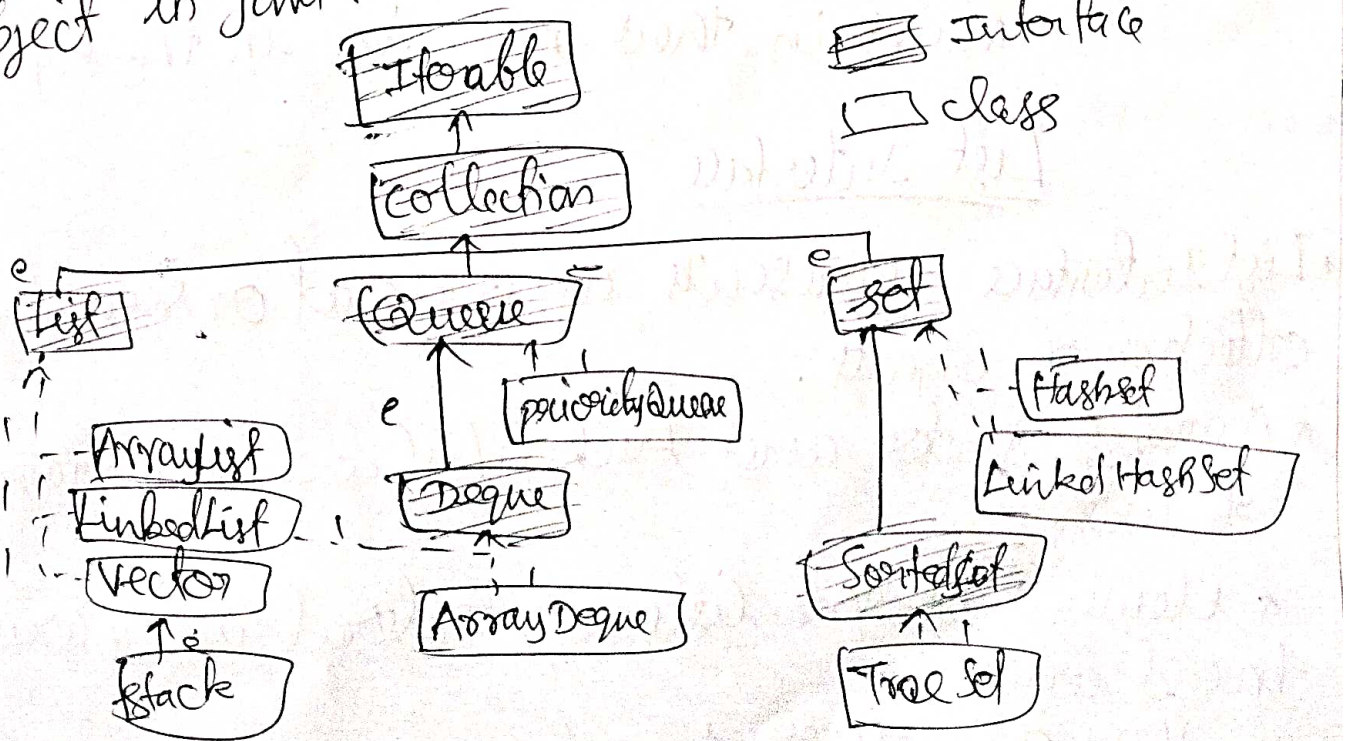
* A collection is a group of objects.
* Collections framework provides a set of standard utility classes to manage collections.
* Collections framework consists of three parts:
  * Core interfaces
  * Concrete implementation
  * Algorithms such as searching and sorting
* A Java collection is a predefined architecture capable of storing a group of elements and behaving like a single unit such as an object or a group.
* A collection is an object or container which stores a group of other objects as a single unit or single entity
* It is also known as containing object or collection object in Java.



Collection Interface

Collection – A basic interface that defines the operations that all the classes that maintain collections of objects typically implement.

set – Extends the collection interface for sets that maintain unique element.

SortedSet – Augments the set interface for sets that maintain their elements in sorted order.

List – Collections that require position-oriented operations should be created as lists. Duplicates are allowed.

Queue – Things arranged by the order in which they are to be processed.

Map – A basic interface that defines operations that classes that represent mapping of keys to value typically implement.

SortedMap – Extends the Map interface for maps that maintain their mappings in the key order.

List Interface

* List Interface represents an ordered or sequential collection of objects.
* ArrayList, Vector and LinkedList are some examples of lists.
* Elements of the lists are ordered using zero based index.
* You can access the elements of list using an integer index.

* Elements can be inserted at a specific position using integer index.
* Any pre-existing elements at or beyond that position are shifted right
* Elements can be removed from a specific position. The elements beyond that position are shifted left.
* A list may contain duplicate elements.
* A list may contain multiple null elements.

ArrayList:

*. ArrayList in Java is a dynamic array that allows us to store multiple objects of any class or data type.
* It is similar to an array, but there is no fixed size limit.
* ArrayList class is present in the java.util package and is commonly used for storing and manipulating collections of objects in an arbitrary order.
* It is a resizable array that can grow or shrink in the memory wherever needed. It is dynamically created with an initial capacity.
* It uses a dynamic array internally for storing the group of elements, objects, or data.
* ArrayList is non-synchronized.