Discuss the characteristics of ArrayList, LinkedList, and Vector and their differences.

An ArrayList is an array with added functionality to assist with common functions such as, adding elements to the array, finding the size of the array, deleting elements at a certain index, finding elements, sorting the array, and so on.

See: http://docs.oracle.com/javase/7/docs/api/java/util/ArrayList.html

LinkLists are Nodes or Vertices that point to other Nodes. Sometimes the Nodes will contain data themselves or point to other Objects that contain the desired data. Some LinkedLists are implemented with, single pointers, two pointers (front, back), and multiple pointers. Occassionally, LinkedLists can be implemented circularly. Additionally, LinkedLists can only be iterated over and have no way of being accessed by an index. Additional functionality is provided to insert Nodes or Objects into the LinkedList, delete Nodes or data, and sorting algorithms provide optimal ways to order a LinkedList.

See: http://docs.oracle.com/javase/7/docs/api/java/util/LinkedList.html

A vector is an obj like an array that starts at one point and moves to infinity in the positive direction; likewise, vector class is an array that can expand or shrink, as necessary, to accommodate storage needs.

See: http://docs.oracle.com/javase/7/docs/api/java/util/Vector.html