Research

1. What is the difference in a hash map versus a hash table?

Hashmap is non synchronized, allows 1 null key and multiple null values, and is perfered if synchronization is not necessary.

2. Why should you generally override the equals and hashCode methods?

If you do not override the two methods, you may end up with different hashcodes for the same initial value and they may end up being stored in different buckets, both of which would disrupt the program.

3. How does a factory design pattern work?

A factory design pattern creates objects without revealing the logic behind their creation to the client. The objects are referred to using a common interface.

4. How does Java Garbage Collection Work?

Java garbage collection works to free up memory by destroying unreachable objects, which are objects that does not contain any references to it, such as nulling the reference variable, reassigning the reference variable, objects created inside of methods, and objects on the island of isolation.

5. What is the difference in a HashMap vs a HashTable?

(I believe this is a duplicate question)

6. What is a sparse Array?

A computer science sparse array is an array in which most of its elements have the same value, typically 0 or null.

In java/android, SparseArray is a particular class that maps integers to objects and the indices can have gaps, unlike a regular array. It is intended to be more memory efficient than a Hashmap but it is generally slower than a Hashmap

7. What is the difference in a ArrayList and the List?

A List is an interface that extends Collection. Many other list type classes can implement List. ArrayList is a class that extends Abstract List and it implements the List interface.

8. What is the difference in comparator vs comparable?

Using comparable, we allow an object to compare itself to another object using a single attribute. Comparable also affects the original class, modifying it. Comparator is separate from the object, requiring a separate class to be made for it but provides the ability to compare multiple attributes between different objects.