1. What are the differences between Lists, Sets, and Maps in Java?

A list allows duplicates and null values. It maintains an insertion order and uses the get(index) method. Set does not allow duplicates or more than one null value. Map does not allow duplicate keys, but duplicates are fine for values.

https://www.geeksforgeeks.org/difference-between-list-set-and-map-in-java/

2. List at least two different implementations for each collection (List, Set, and Map). When would you use one of the implementations over the other?

List: ArrayList – used when you need a dynamic array. LinkedList – used when you need a dynamic array with pointers to the next (and/or last) node.

Set: HashSet – used to implement a Set interface with a Hash Table. TreeSet – uses a Tree for storage and uses that tree to maintain a natural ordering.

Map: HashMap – used similar to HashTable. Can support one null key. TreeMap – does not support null keys, but will support null values.

3. Write a line of code that shows how you would instantiate an ArrayList of String.

```
List<String> listOfStrings = new ArrayList<String>();
```

4. Write a line of code that shows how you would instantiate a HashSet of StringBuilder.

```
Set<StringBuilder> setOfStringbuilder = new HashSet<StringBuilder>();
```

5. Write a line of code that shows how you would instantiate a HashMap of String, String.

```
Map<String, String> map = new HashMap<String, String>();
```

6. What is your favorite thing you learned this week?

Collections are a very powerful framework!