Frank Kyle Reddeman

Week 4: Research

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

The differences between Lists, Sets, and maps are that maps are a key and value pair with the key being unique. Sets can't have duplicate values, and then Lists behave more similarly to arrays. [Link](#)

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?

Set: HashSet and TreeSet, Using HashSet is faster but doesn't guarentee order.

List: ArrayList and LinkedList, Using ArrayList gives you faster access to anywhere in the list, but can be slower at removing elements and restructuring the list.

Map: HashMap and TreeMap, Using HashMap is fater but doesn't guarentee order.

[Set Link](#)   [List Link](#)   [Map Link](#)

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

List<String> myList = new ArrayList<>();

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

Set<StringBuilder> mySet = new HashSet<>();

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

Map<String, String> myMap = new HashMap<>();

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

My favorite thing that I learned this week are Maps, having unique keys seems very useful.