

Week 4: Collections

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

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

<https://www.java67.com/2013/01/difference-between-set-list-and-map-in-java.html>

A List is an ordered collection that will allow duplicates within the list to which a Set will not allow any duplicates and will not guarantee an order in which any elements will be stored. So If I made a small list of items as a "List" it would come out in the order I put them. If I used the same list and used "Set" it may or may not come out rearranged. Since the "List" allows duplicates, it will also allow many "null" outcomes. Whereas "Set" will only allow 1 "null" outcome due to not allowing any duplicates. As for "Map" we store pairs of keys and values that can be looked up later by using just the key. Like "Set", "Map" does not allow duplicates and also will not maintain order. So may or may not come out in the same order as inserted.

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

As I was following along with the video curriculum I believe this is how to instantiate:

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

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

```
static List<String> option = new ArrayList<String>();
```