Class 02: Arrays, Lists, Sets, Maps (Collections)

Reminders:

- Printing vs returning a string
- overview of class, main method, function, everything static
- Yes, arrays are in curly bois

Arrays

- Fixed size
- read `aa[i]`
- write `aa[i] = 12`

```
int[] a1 = {21, 54, 75};
int[] a2 = new int[3];
for (int i = 0; i < a2.length; i++) {
  System.out.println(a2[i]);
}
```

List

https://docs.oracle.com/javase/8/docs/api/java/util/ArrayList.html

- Squishy(non-fixed size)
- read `ll.get(i)`
- write `ll.set(i, 12)`

```
List<Integer> ll = new ArrayList<>();
ll.add(21);
ll.add(54);
ll.add(75);

for (int i = 0; i < ll.size(); i++) {
  System.out.println(ll.get(i));
}
```

Set

https://docs.oracle.com/javase/8/docs/api/java/util/HashSet.html

- Unordered. Not addressable by any index.
- All unique elements. Adding something twice will not affect the set.
- `ss.add(12)`
- `ss.contains(12)`
- `ss.remove(12)`

```
Set<Integer> ss = new HashSet<>();
ss.add(12);
ss.add(12);
ss.add(93);

for (int value : ss) {
  System.out.println(value);
}
```

Map

https://docs.oracle.com/javase/8/docs/api/java/util/HashMap.html

- Stores key/value pairs
- `map.size()`
- `map.put(key, value)`
- `map.get(key)`
- `map.containsKey(key)`

```
Map<Integer, String> neighborhoods = new HashMap<>();
neighborhoods.put(98105, "U District");
```