

159 XTENDED

A WEEKLY REVIEW

ARRAYLISTS

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ARRAY LIMITATIONS

▶ Fixed Size

- ▶ Arrays require us to specify size at the time of declaration.

```
int[] array = new int[10];
```

▶ What do we do when...

- ▶ We don't know the size of our array
- ▶ Our array needs to grow or shrink it's size

JAVA COLLECTIONS

- ▶ Java includes a *Collections Framework*
 - ▶ A *collection* is an object that represents a group of objects.
 - ▶ Collections are used to store, retrieve, and manipulate aggregate data.
- ▶ An example of a collection is an ArrayList.
 - ▶ Other collections are HashMaps, HashSets, and TreeMap.

ARRAYLIST METHODS

- ▶ `add(Object o): boolean`
- ▶ `remove(int index)`
- ▶ `set(int index, Object o)`
- ▶ `size(): int`
- ▶ `contains(Object o): boolean`
- ▶ `get(int index): Object`
- ▶ `clear()`

DECLARING AN ARRAYLIST

```
ArrayList<String> peopleList = new ArrayList<String>();
```

1. Element Type

2. List Name

USING AN ARRAYLIST

```
peopleList.add("Reece");
```

```
peopleList.add("Cindy");
```

```
peopleList.remove("Reece");
```

```
peopleList.contains("Zeru");
```

 false

```
peopleList.contains("Cindy");
```

 true

ARRAYLIST ACTIVITY

- ▶ Create a method called `customerLister` that creates and returns a new `ArrayList` called `customerNames` of `String` objects. Add each of the following `Strings` to it:
 - ▶ Beth
 - ▶ Jerry
 - ▶ Rick
 - ▶ Summer
 - ▶ Morty

ARRAYLIST ACTIVITY

```
public ArrayList<String> customerLister()  
{  
    ArrayList<String> customerNames = new ArrayList<String>();  
  
    customerNames.add("Beth");  
    customerNames.add("Jerry");  
    customerNames.add("Rick");  
    customerNames.add("Summer");  
    customerNames.add("Morty");  
}
```

ARRAYLIST ACTIVITY

- ▶ Add a loop to the end of `customerList` that prints all of the names from `customerNames` on a separate line.

```
public ArrayList<String> customerLister()  
{  
    ArrayList<String> customerNames = new ArrayList<String>();  
  
    customerNames.add("Beth");  
    customerNames.add("Jerry");  
    customerNames.add("Rick");  
    customerNames.add("Summer");  
    customerNames.add("Morty");  
}
```


ARRAYLIST ACTIVITY

```
public ArrayList<String> customerLister()  
{  
    ArrayList<String> customerNames = new ArrayList<String>();  
  
    customerNames.add("Beth");  
    customerNames.add("Jerry");  
    customerNames.add("Rick");  
    customerNames.add("Summer");  
    customerNames.add("Morty");  
  
    for (String name : customerNames)  
    {  
        System.out.println(name);  
    }  
}
```