

ArrayList and Generics Practice*(find and work with a partner)*

In this exercise we will make our own `ArrayList` class with limited functionality. Note that this is not exactly how Java implements `ArrayList`, but the underlying theory is similar.

1. Analyze the current code. Why are there zero elements but we have initialized an array of size 10?
2. Complete the `add` method (pseudocode is fine). What are the two cases we need to deal with?
3. After class: try to implement your method, filling in pseudocode with actual code as necessary. Try out your data structure in a separate `main` method!

```
public class ArrayList<T> {

    private T[] array; // this will hold our data of type T
    private int numElem; // this will keep track of the number of elements

    public ArrayList() {
        array = (T[]) new Object[10]; // default: start with space for 10 elements
        numElem = 0;
    }

    public void add(T elem) {

    }

}
```