HW-2

1.

Implement the following method that returns the maximum element in an array.

```
public static <E extends Comparable<E>> E max(E[] list)
```

2.

Write the following method. The method call `removeDuplicates(list)` returns a copy of `list` that do not contain duplicate elements. For example, if `list = [1,2,1,2,3,4,4]`, then the returned list is `[1,2,3,4]`.

```
public static <E> ArrayList<E> removeDuplicates(ArrayList<E> list)
```

3.

The following class `GenericStack` is implemented using composition. Define a new generic stack class that extends `ArrayList`.

```
public class GenericStack<E> {
  private java.util.ArrayList<E> list = new java.util.ArrayList<>();

  public int getSize() {
    return list.size();
  }

  public E peek() {
    return list.get(getSize() - 1);
  }

  public void push(E o) {
    list.add(o);
  }

  public E pop() {
    E o = list.get(getSize() - 1);
    list.remove(getSize() - 1);
    return o;
  }

  public boolean isEmpty() {
    return list.isEmpty();
  }

  @Override
```

```
  public String toString() {
    return "stack: " + list.toString();
  }
}
```