

```
/**
 * Assignment 02 Part 2
 * COMP-249
 * Written by:
 * @author Yan Pilon (40246124)
 * @author Miskat Mahmud (40250110)
 * Due Date: 04 March 2023
 */
```

Copying the array:

```
for (int i=0;i< array1.length;i++){
    System.out.println(array1[i].toString());
}

Object [] copyArray1 = copyTheObjects(array1);
System.out.println("");

for (int i=0;i< copyArray1.length;i++){
    System.out.println(copyArray1[i].toString());
}

}

public static Object[] copyTheObjects(Object[] yes){
    Object [] newYes = new Object[yes.length];
    for (int i=0;i< yes.length;i++){
        newYes[i]= yes[i];
    }
    return newYes;
}
```

Output:

```
This aircraft costs 100000.0 and has a max elevation of 40000.0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to , this metro has 0 stops this Tram what made in 0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0
This aircraft costs 2000000.0 and has a max elevation of 40000.0 the fact that this world war II airplane has a twin engine is true
This ferry has a max speed of 0.0 and a max load of 0.0
This aircraft costs 3000000.0 and has a max elevation of 40000.0 the fact that this world war II airplane has a twin engine is true
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to , this metro has 0 stops
This aircraft costs 300000.0 and has a max elevation of 40000.0
This aircraft costs 20000.0 and has a max elevation of 40000.0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0 this monowheel can handle a max weight of 0.0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to , this metro has 0 stops
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to
This aircraft costs 120000.0 and has a max elevation of 40000.0

This aircraft costs 100000.0 and has a max elevation of 40000.0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to , this metro has 0 stops this Tram what made in 0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0
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This ferry has a max speed of 0.0 and a max load of 0.0
This aircraft costs 3000000.0 and has a max elevation of 40000.0 the fact that this world war II airplane has a twin engine is true
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to , this metro has 0 stops
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This aircraft costs 20000.0 and has a max elevation of 40000.0
This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0 this monowheel can handle a max weight of 0.0
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This wheeled transportation vehicle has 0 wheels and has a max speed of 0.0, this train also has 0 vehicles and goes from to
```

The `copyTheObject` can't create a deep copy of the `Object` array it is being passed since we are not allowed to determine the class of the object being copied at each index value in the array. Since we don't know the class, we can't call the appropriate copy constructor. Our version of the `copyTheObject` method only creates a shallow copy or a reference to the same original object.

Hence, even though the output displays the same, their memory location is also shared, meaning that it's a shallow copy. So bringing change into one array would affect the other. Because we could not use the `clone` method, the only thing we can do is create another array with references to the same objects in the other array. And since the copy constructors have different names in different classes, the polymorphism does not kick in to copy the objects the right way, which would be a deep copy.