

PA8 – Exceptions Memory Diagram Template

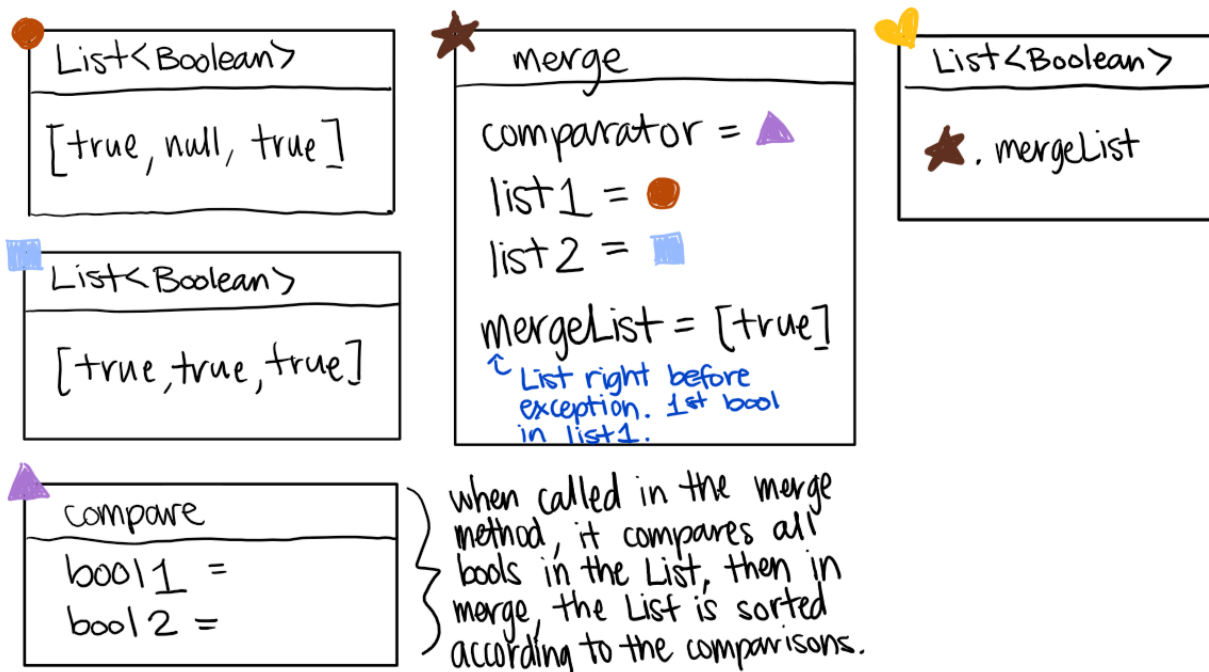
Output at command line with stack trace here

```
PS C:\Users\15624\OneDrive\Desktop\JavaProjects\CSE11\Assignments\pa8-starter-main> .\run.bat TestCompareLists
Tester Library v.3.0
-----
Tests defined in the class: TestCompareLists:
-----
TestCompareLists:
-----
new TestCompareLists:1(
  this.CL = new CompareLists:2())
-----
Threw exception during test 22
java.lang.IllegalArgumentException: null value in first list
    at CompareLists.merge(CompareLists.java:254)
    at TestCompareLists.testMerge(CompareLists.java:340)
    at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at java.base/jdk.internal.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:77)
    at java.base/jdk.internal.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:43)
    at java.base/java.lang.reflect.Method.invoke(Method.java:568)
    at tester.Tester$WaitForTest.call(Tester.java:372)
    at tester.Tester$WaitForTest.call(Tester.java:357)
    at java.base/java.util.concurrent.FutureTask.run(FutureTask.java:264)
    at java.base/java.lang.Thread.run(Thread.java:833)

Ran 22 tests.
1 test failed.

Failed test results:
-----
--- END OF TEST RESULTS ---
```

Drawing of memory at the point the exception was thrown here



Screenshots of all method bodies and method calls from your code on the stack at the point of throwing the exception here (only include objects/arrays on the heap that are relevant for the method call(s) involved in the error). Make sure to show all the variables in use when the throw happens!

```
339 //method call with exception for stack trace
340 List<Boolean> exception = CompareLists.merge(new BooleanCompare(), 17, 18);
```

```
327 List<Boolean> 17 = Arrays.asList(true, null, true);
328 List<Boolean> 18 = Arrays.asList(true, true, true);
```

```

250 static <E> List<E> merge(Comparator<E> comparator, List<E> list1, List<E> list2) {
251     List<E> mergeList = new ArrayList<>();
252     for(E element : list1) {
253         if(element == null) {
254             throw new IllegalArgumentException("null value in first list");
255         }
256         mergeList.add(element);
257     }
258     for(E element : list2) {
259         if(element == null) {
260             throw new IllegalArgumentException("null value in second list");
261         }
262         mergeList.add(element);
263     }
264     Collections.sort(mergeList, comparator);
265     return mergeList;
266 }
267 }

```

```

83 class BooleanCompare implements Comparator<Boolean> { //true > false
84     public int compare(Boolean bool1, Boolean bool2) {
85         if(bool1 == false && bool2 == true) {
86             return -1;
87         }
88         else if(bool1 == true && bool2 == false) {
89             return 1;
90         }
91         else { //equal bools
92             return 0;
93         }
94     }
95 }

```