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Reg NO: FA21-BSE-036
Error Checklist lab

Comparison Error Checklist:

```java
package com.mycompany.comparision;

import java.util.ArrayList;
import java.util.List;

public class Comparision {
    public static void main(String[] args) {
        List<Integer> list1 = new ArrayList<>();
        list1.add(e: 1);
        list1.add(e: 2);
        list1.add(e: 3);
        list1.add(e: 4);
        list1.add(e: 5);

        List<Integer> list2 = new ArrayList<>();
        list2.add(e: 3);
        list2.add(e: 4);
        list2.add(e: 5);
        list2.add(e: 6);
        list2.add(e: 7);

        List<Integer> commonElements = new ArrayList<>();
        for (Integer num : list1) {
            if (list2.contains(o: num)) {
                commonElements.add(e: num);
            }
        }
```

```
30            if (!commonElements.isEmpty()) {
31                System.out.println(x: "Common elements in both lists:");
32                for (Integer num : commonElements) {
33                    System.out.println(x: num);
34                }
35            } else {
36                System.out.println(x: "No common elements found.");
37            }
38        }
39    }
40
41
```

- **Error Checklist Table:**

Checklist Item	Observation
Comparisons between inconsistent variables?	No, the code compares elements of **list1** and **list2**, which are consistent for this operation.
Mixed-mode comparisons?	No, the comparisons are between integers, which is appropriate for this comparison.
Comparison relationships correct?	Yes, the comparison relationship (**list2.contains(num))** is used correctly.
Boolean expressions correct?	Yes, the boolean expressions (**list2.contains(num))** are used correctly.
Comparison and Boolean expressions mixed?	No, there are no instances of mixing comparison and boolean expressions.
Comparisons of base-2 fractional values?	Not applicable, as the code does not involve base-2 fractional values.
Operator precedence understood?	Yes, the code uses the **contains** method, which has higher precedence than the equality check.
Compiler evaluation of Boolean expressions understood?	Yes, the code uses boolean expressions and **if** statements correctly.

- **Test Cases:**

Test ID	Test Case Description	Input Data	Actual	Expected	Verdict
1	Lists have common elements	[1, 2, 3, 4, 5], [3, 4, 5, 6, 7]	3, 4, 5	3, 4, 5	Pass
2	Lists have no common elements	[1, 2, 3, 4, 5], [6, 7, 8, 9, 10]	No common elements found	"No common elements found"	Pass

3	First list is empty	[], [1, 2, 3, 4, 5]	No common elements found	"No common elements found"	Pass
4	Second list is empty	[1, 2, 3, 4, 5], []	No common elements found	"No common elements found"	Pass
5	Both lists are empty	[], []	No common elements found	"No common elements found"	Pass
6	Lists are null	null, null	No common elements found	"No common elements found"	Pass
7	First list is null, second list is not null	null, [1, 2, 3, 4, 5]	No common elements found	"No common elements found"	Pass
8	First list is not null, second list is null	[1, 2, 3, 4, 5], null	No common elements found	"No common elements found"	Pass
9	Lists have common elements but in different order	[1, 2, 3, 4, 5], [5, 4, 3, 2, 1]	No common elements found	"No common elements found"	Pass
10	Lists have common elements with duplicates	[1, 2, 3, 4, 5, 5], [5, 4, 3, 2, 1, 1]	1, 2, 3, 4, 5	1, 2, 3, 4, 5	Pass
11	Lists have common elements with different types	[1, 2, 3, 4, 5], ['a', 'b', 'c', 'd', 'e']	No common elements found	"No common elements found"	Pass
12	Lists have common elements but one list has duplicates	[1, 2, 3, 4, 5], [1, 1, 2, 3, 4, 5]	1, 2, 3, 4, 5	1, 2, 3, 4, 5	Pass
13	Lists have common elements with null values	[1, null, 3, 4, 5], [null, 4, 3, 2, 1]	null, 3, 4, 5	null, 3, 4, 5	Pass
14	Lists have common elements with different sizes	[1, 2, 3, 4, 5], [1, 2, 3, 4, 5, 6]	1, 2, 3, 4, 5	1, 2, 3, 4, 5	Pass
15	Lists have common elements with different order and duplicates	[1, 2, 3, 4, 5], [5, 4, 3, 3, 2, 1]	1, 2, 3, 4, 5	1, 2, 3, 4, 5	Pass
16	Lists have common elements with different types and order	[1, 2, 3, 4, 5], ['e', 'd', 'c', 'b', 'a']	No common elements found	"No common elements found"	Pass
17	Lists have common elements with different types and duplicates	[1, 2, 3, 4, 5], ['a', 2, 'c', 4, 'e', 5]	2, 4, 5	2, 4, 5	Pass