**Problem with array1.equals(array2)**

In Java, **arrays are objects**, and the equals() method for arrays **does NOT compare contents**. It behaves like == and checks if both arrays **refer to the same object in memory**.

So even if two arrays have the same elements:

Using Arrays.equals() (built-in method

import java.util.Arrays;

if(Arrays.equals(array1, array2)){

System.out.println("Arrays are equal");

}else{

System.out.println("Arrays are not equal");

}

Alright 👍 let’s now do the **same thing but for 1 to 100**.

**Step 1: What we expect**

Normally, we should have all numbers from **1 to 100**:

[1,2,3,4,...,100][1, 2, 3, 4, ..., 100][1,2,3,4,...,100]

That means there are **100 numbers in total**.

**Step 2: But one is missing**

Example:

[1,2,3,4,6,7,...,100][1, 2, 3, 4, 6, 7, ..., 100][1,2,3,4,6,7,...,100]

Here, **5 is missing**.

**Step 3: Formula method**

1. **Expected sum** of numbers from 1 to 100 is:

100(101)2=5050\frac{100(101)}{2} = 50502100(101)​=5050

1. **Actual sum** → add all numbers in your given array.

Example: if the array is missing 5, then sum will be:

504550455045

1. **Missing number = Expected sum − Actual sum**

5050−5045=55050 - 5045 = 55050−5045=5

✅ So the missing number is **5**.

This works no matter which number is missing.