

ARRAY OPERATIONS

Quick Revision: Array Operations in Java 🚀

Here's a list of **common array operations** in Java with code snippets for quick reference.

1. Declaration and Initialization

// Declaration

```
int[] arr;
```

// Initialization

```
arr = new int[5]; // Array of size 5
```

// Combined declaration & initialization

```
int[] arr1 = {1, 2, 3, 4, 5}; // Direct initialization
```

2. Accessing Elements

```
System.out.println(arr1[2]); // Output: 3
```

3. Modifying Elements

```
arr1[1] = 10; // Modifies the second element
```

4. Traversing an Array

// Using for-loop

```
for (int i = 0; i < arr1.length; i++) {  
    System.out.print(arr1[i] + " ");  
}
```

// Using enhanced for-loop

```
for (int num : arr1) {  
    System.out.print(num + " ");  
}
```

ARRAY OPERATIONS

5. Sorting an Array

```
import java.util.Arrays;

Arrays.sort(arr1); // Sorts in ascending order
```

6. Searching an Element

```
int index = Arrays.binarySearch(arr1, 3); // Works on sorted array

System.out.println("Index of 3: " + index);
```

7. Copying an Array

```
int[] copy = Arrays.copyOf(arr1, arr1.length); // Copy entire array

int[] copyRange = Arrays.copyOfRange(arr1, 1, 4); // Copy specific range
```

8. Filling an Array with a Value

```
Arrays.fill(arr1, 5); // Fills the array with 5
```

9. Converting an Array to String

```
System.out.println(Arrays.toString(arr1)); // Prints: [5, 5, 5, 5, 5]
```

10. Finding Maximum & Minimum Element

```
int max = Arrays.stream(arr1).max().getAsInt();

int min = Arrays.stream(arr1).min().getAsInt();
```

11. Reversing an Array

```
for (int i = 0, j = arr1.length - 1; i < j; i++, j--) {

    int temp = arr1[i];

    arr1[i] = arr1[j];

    arr1[j] = temp;

}
```

ARRAY OPERATIONS

12. Checking if Two Arrays are Equal

```
boolean isEqual = Arrays.equals(arr1, copy);  
System.out.println("Arrays are equal: " + isEqual);
```

13. Multi-Dimensional Arrays

```
int[][] matrix = new int[3][3]; // 3x3 matrix
```

// Traversing

```
for (int i = 0; i < matrix.length; i++) {  
    for (int j = 0; j < matrix[i].length; j++) {  
        System.out.print(matrix[i][j] + " ");  
    }  
}
```

14. Converting Array to List

```
import java.util.List;  
import java.util.Arrays;  
List<Integer> list = Arrays.asList(1, 2, 3, 4, 5);
```

15. Using Streams to Process Arrays

```
Arrays.stream(arr1).forEach(System.out::print);
```

💡 Hope this helps in quick revision! Let me know if you need more details. 🚀