

JAVA EXAMPLES - ARRAY SORT AND INSERT

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Problem Description:

How to sort an array and insert an element inside it?

Solution:

Following example shows how to use sort method and user defined method insertElement to accomplish the task.

```
import java.util.Arrays;

public class MainClass {
    public static void main(String args[]) throws Exception {
        int array[] = { 2, 5, -2, 6, -3, 8, 0, -7, -9, 4 };
        Arrays.sort(array);
        printArray("Sorted array", array);
        int index = Arrays.binarySearch(array, 1);
        System.out.println("Didn't find 1 @ "
            + index);
        int newIndex = -index - 1;
        array = insertElement(array, 1, newIndex);
        printArray("With 1 added", array);
    }
    private static void printArray(String message, int array[]) {
        System.out.println(message
            + ": [length: " + array.length + "]");
        for (int i = 0; i < array.length; i++) {
            if (i != 0){
                System.out.print(", ");
            }
            System.out.print(array[i]);
        }
        System.out.println();
    }
    private static int[] insertElement(int original[],
        int element, int index) {
        int length = original.length;
        int destination[] = new int[length + 1];
        System.arraycopy(original, 0, destination, 0, index);
        destination[index] = element;
        System.arraycopy(original, index, destination, index
            + 1, length - index);
        return destination;
    }
}
```

Result:

The above code sample will produce the following result.

```
Sorted array: [length: 10]
-9, -7, -3, -2, 0, 2, 4, 5, 6, 8
Didn't find 1 @ -6
With 1 added: [length: 11]
-9, -7, -3, -2, 0, 1, 2, 4, 5, 6, 8
```

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