

Task 2: Generic Classes and Methods

Implement a generic method that swaps the positions of two elements in an array, regardless of their type, and demonstrate its usage with different object types.

```
package Day19;

import java.util.Arrays;

public class Task2 {
    // Generic method to swap the positions of two elements in an array
    public static <T> void swap(T[] array, int index1, int index2) {
        T temp = array[index1];
        array[index1] = array[index2];
        array[index2] = temp;
    }

    public static void main(String[] args) {
        // Test with Integer array
        Integer[] intArray = {1, 2, 3, 4, 5};
        System.out.println("Original Integer array: " + Arrays.toString(intArray));
        swap(intArray, 1, 3);
        System.out.println("Swapped Integer array: " + Arrays.toString(intArray));

        // Test with String array
        String[] stringArray = {"one", "two", "three", "four"};
        System.out.println("Original String array: " + Arrays.toString(stringArray));
        swap(stringArray, 0, 2);
        System.out.println("Swapped String array: " + Arrays.toString(stringArray));

        // Test with Double array
        Double[] doubleArray = {1.1, 2.2, 3.3, 4.4};
        System.out.println("Original Double array: " + Arrays.toString(doubleArray));
        swap(doubleArray, 1, 2);
        System.out.println("Swapped Double array: " + Arrays.toString(doubleArray));
    }
}
```

