

LAB # 7

Generics in Java

OBJECTIVE:

Implementing generic classes and methods for ensuring compile time type safety of data.

Lab Task:

1. Write a program that takes integer array, double array and float array. Make a generic function that prints these arrays in reverse order.

Source Code:

```
public class Generic {
    public static < E > void printArray(E[] inputArray) {
        for (E element : inputArray) {
            System.out.printf("%s \t", element);
        }
        System.out.println();
    }

    public static < E > void printReverseArray(E[] inputArray) {
        for (int i = inputArray.length-1; i >= 0; i--) {
            System.out.print(inputArray[i]+" \t");
        }
        System.out.println();
    }

    public static void main(String args[]) {
        Integer[] intArray = { 241, 243, 247, 250};
        Double[] doubleArray = { 2.314, 2.159, 3.2567, 2.455};
        Double[] floatArray = { 2.3, 2.1, 3.5, 2.4};

        System.out.println("Array integerArray contains:");    printArray(intArray);
        System.out.println("Reverse Order:");                  printReverseArray(intArray);

        System.out.println("\nArray doubleArray contains:");    printArray(doubleArray);
        System.out.println("Reverse Order:");                    printReverseArray(doubleArray);

        System.out.println("\nArray floatArray contains:");    printArray(floatArray);
        System.out.println("Reverse Order:");                    printReverseArray(floatArray);
    }
}
```

Output:

Javadoc 0ecTarabon Console 0

< terminated> Generic [Java Application] C:\Users\Taha\p2\p

Array imtegerArray comtains:

241 243 247 256

Reverse Order:

256 247 243 241

Array doubleArray comtains:

2.314 2.159 3.2567 2.455

Reverse Order:

2.455 3.2567 2.159 2.314

Array floatArray comtains:

2.3 2.1 3.5 2.4

Reverse Order:

2.4 3.5 2.1 2.3