

## Class Driver03 - Lab03

1/2

```
import java.util.*;
/**
 * Driver03 prints, scrambles, prints, sorts, then prints an array of integers
 *
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 * @period 2
 * @version 3-15-19
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 */
public class Driver03 {
    /**
     * Main executes upon running jar
     *
     * @param args Ignore
     */
    public static void main(String[] args)
    {
        int[] array = {100, 101, 102, 103, 104, 105, 106, 107, 108, 109};
        print(array);
        scramble(array);
        print(array);
        sort(array);
        print(array);
    }

    /**
     * Prints an array of integers
     *
     * @param arr Array of integers to be printed
     */
    private static void print(int[] arr){
        for(int i:arr){
            System.out.print(Integer.toString(i)+" ");
        }
        System.out.println();
    }

    /**
     * Scrambles an array
     *
     * @param arr Array of integers to be scrambled
     */
    private static void scramble(int[] arr){
        for(int foo:arr){
            for (int i=0; i<arr.length; i++) {
                swap(arr,i,(int)(Math.random()*arr.length));
            }
        }
    }
}
```

```
}

/**
 * Sorts an array
 *
 * @param arr Array of integers to be sorted
 */
private static void sort(int[] arr){
    for(int i=arr.length-1;i>0;--i){
        swap(arr,findMax(arr, i),i);
    }
}

/**
 * Finds max integer in a section of an array
 *
 * @return maximum int in array section
 * @param arr      Array to search through
 * @param i         Last index to search through
 */
private static int findMax(int[] arr, int i){
    int maxIndex=i;
    for(int j=i;j>=0;--j){
        if(arr[maxIndex]<arr[j]){
            maxIndex=j;
        }
    }
    return maxIndex;
}

/**
 * Swaps two items in array of integers
 *
 * @param arr      Array of ints to be swapped
 * @param i         First int index
 * @param j         Second int index
 */
private static void swap(int[] arr, int i, int j){
    arr[i]=(arr[i]+arr[j])-(arr[j]=arr[i]);
}
}
```