



**UNIVERSIDAD NACIONAL AUTÓNOMA DE
MÉXICO**

FACULTAD DE ESTUDIOS SUPERIORES ARAGÓN

INGENIERÍA EN COMPUTACIÓN

Estructura de Datos

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Grupo: 1360

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```
File Edit Selection View Go Run Terminal Help EDO_2025
MergeSort.py U MergeSort.java U
Tarea-12 > MergeSort.java MergeSort
1 import java.util.Arrays;
2
3 public class MergeSort {
4     public static void mergeSort(int[] data) {
5         if (data.length > 1) {
6             int mitad = data.length / 2;
7             int[] izquierda = Arrays.copyOfRange(data, 0, mitad);
8             int[] derecha = Arrays.copyOfRange(data, mitad, data.length);
9             System.out.println(Arrays.toString(izquierda) + " --- " + Arrays.toString(derecha));
10            mergeSort(izquierda);
11            mergeSort(derecha);
12            int i = 0, d = 0, k = 0;
13            while (i < izquierda.length && d < derecha.length) {
14                if (izquierda[i] < derecha[d]) {
15                    data[k] = izquierda[i];
16                    i++;
17                } else {
18                    data[k] = derecha[d];
19                    d++;
20                }
21                k++;
22            }
23            while (i < izquierda.length) {
24                data[k] = izquierda[i];
25                i++;
26                k++;
27            }
28            while (d < derecha.length) {
29                data[k] = derecha[d];
30                d++;
31                k++;
32            }
33            System.out.println("Regreso de rec: " + Arrays.toString(data));
34        }
35    }
36
37    Run | Debug
38    public static void main(String[] args) {
39        System.out.println("----- MERGE -----");
40        int[] info = { 38, 27, 43, 3, 9, 82, 10, 19, 50, 61 };
41        mergeSort(info);
42        System.out.println(Arrays.toString(info));
43    }
44 }
```

```
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PS C:\Users\luisa\OneDrive\Escritorio\EDO_2025> & 'C:\Program Files\Java\jdk-21\bin\java.exe' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\luisa\AppData\Roaming\Code\User\workspaceStorage\08afa209e489570f3887657c2b1e20c9\redhat-java\jdt_ws\EDO_2025_7562f8be\bin' 'MergeSort'

----- MERGE -----
[38, 27, 43, 3, 9] --- [82, 10, 19, 50, 61]
[38, 27] --- [43, 3, 9]
[38] --- [27]
Regreso de rec: [38]
Regreso de rec: [27]
Regreso de rec: [27, 38]
[43] --- [3, 9]
Regreso de rec: [43]
[3] --- [9]
Regreso de rec: [3]
Regreso de rec: [9]
Regreso de rec: [3, 9]
Regreso de rec: [3, 9, 43]
Regreso de rec: [3, 9, 27, 38, 43]
[82, 10] --- [19, 50, 61]
[82] --- [10]
Regreso de rec: [82]
Regreso de rec: [10]
Regreso de rec: [10, 82]
[19] --- [50, 61]
Regreso de rec: [19]
[50] --- [61]
Regreso de rec: [50]
Regreso de rec: [61]
Regreso de rec: [50, 61]
Regreso de rec: [19, 50, 61]
Regreso de rec: [10, 19, 50, 61, 82]
Regreso de rec: [3, 9, 10, 19, 27, 38, 43, 50, 61, 82]
[3, 9, 10, 19, 27, 38, 43, 50, 61, 82]
PS C:\Users\luisa\OneDrive\Escritorio\EDO_2025>