

Algorithmics	Student information	Date	Number of session
	UO: 275725		3.2
	Surname: Gómez Menéndez		
	Name: Laura		

Activity 1. [Counting inversions.]

Make sure that your both algorithms obtain the same number of inversions (last column).

Measure the times of both algorithms with the InversionsTimes.java (class that is provided to you and fill in the following table:

File	t $O(n^2)$	t $O(n \log n)$	t $O(n^2)$ / t $O(n \log n)$	n inversions
Ranking1.txt	0			14.074.466
Ranking2.txt	0			56.256.142
Ranking3.txt	0			225.312.650
Ranking4.txt	0			903.869.574
Ranking5.txt	0			3.613.758.061
Ranking6.txt	0			14.444.260.441
Ranking7.txt	0			57.561.381.803

Explain if the results are as expected and why.

Related to the quadratic one, as you can see in the code and in the screenshot, I get the correct number of inversions but when I measure them the result is not what I expected due to the fact is always 0 ms.

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<terminated> InversionsTimes [Java Application] C:\Users\usuario\Documents\Plantillas personalizadas de Office\bin\javaw.exe (17 mar. 2021 10:21:4
Number of inversions = 14074466
*****
FILE: C:\Users\usuario\git\algorithmicsGomezMenendezLauraU0275725/src/main/java/algstudent/s32/ranking2.txt
Number of inversions = 0
The time for the algorithm  $O(n \log n)$  is: 0 milliseconds
Number of inversions = 56256142
The time for the algorithm  $O(n^2)$  is: 0 milliseconds
*****
FILE: C:\Users\usuario\git\algorithmicsGomezMenendezLauraU0275725/src/main/java/algstudent/s32/ranking3.txt
Number of inversions = 0
The time for the algorithm  $O(n \log n)$  is: 0 milliseconds
Number of inversions = 225312650
The time for the algorithm  $O(n^2)$  is: 0 milliseconds
*****
FILE: C:\Users\usuario\git\algorithmicsGomezMenendezLauraU0275725/src/main/java/algstudent/s32/ranking4.txt
Number of inversions = 0
The time for the algorithm  $O(n \log n)$  is: 0 milliseconds
Number of inversions = 903869574
The time for the algorithm  $O(n^2)$  is: 0 milliseconds
*****

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