Escuela de Ingeniería Informática
Universidad de Oviedo

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Activity 1. [Time measuring of the greedy algorithm]

n	t colouring (ms)
8	LoR
16	LoR
32	LoR
64	LoR
128	LoR
256	LoR
512	0.999
1024	1.999
2048	4.999
4096	11
8192	24.999
16384	69.509
32768	140.606
65536	444.362

We can see that the times match the theoretical complexity which in this case is:
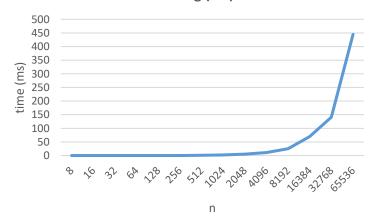
$$O(n \times E)$$

Where:

- E = the number of neighbors of the node

- n = the number of nodes

So, the best possible complexity is $O(n)$ when $E = 1$ and the worst possible complexity is $O(n^2)$ when $E = n$

t coloring (ms)

t coloring (ms) Log