

Algorithmics	Student information	Date	Number of session
	UO:300717	20/03/2025	6(lab 8)
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## Activity 1.

n	t optimized	t non-optimized
200	119	504
400	125	4983
800	521	28270
1600	4080	234626
3200	28501	1587849
6400	218470	

The Floyd algorithm has a complexity of  $O(n^3)$  this lines up with the results obtained, every time the number of nodes doubles the amount of time it takes to execute is more or less multiplied by 8 ( $2^3$ ), the prediction is more closely followed when the optimizations are turned on though this grants less values so a column was added containing the values obtained with the optimizations active, as this values are also above 50 ms, and this allows values up to  $n = 6400$  (higher values cause a heap overflow)