


Algorithmics	Student information	Date	Number of session
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## Activity 1. The Minimum Path

The Floyd algorithm iterates over three nested loops, therefore, its complexity is  $O(n^3)$ . It is in charge of modifying the costs matrix, checking which is the shortest path between nodes in a graph.

n	t floyd (ms)
200	308
400	4067
800	27007
1600	147072
3200	OoT

We can observe expected times, considering the  $O(n^3)$  complexity of the Floyd algorithm. The algorithm quickly grows exponentially as we increase the size of the problem. Going from merely taking 300ms to over five minutes in just five iterations. This algorithm is really only usable in small or medium-sized graphs, since its complexity is such that it would be impossible to work with bigger graphs; it would take too much time.