BE GRAPHES

Samuel LAGER & Jin Yu TUNG

INSA INSTITUT NATIONAL DES SCIENCES APPLIQUÉES TOULOUSE

04/06/19

Plan

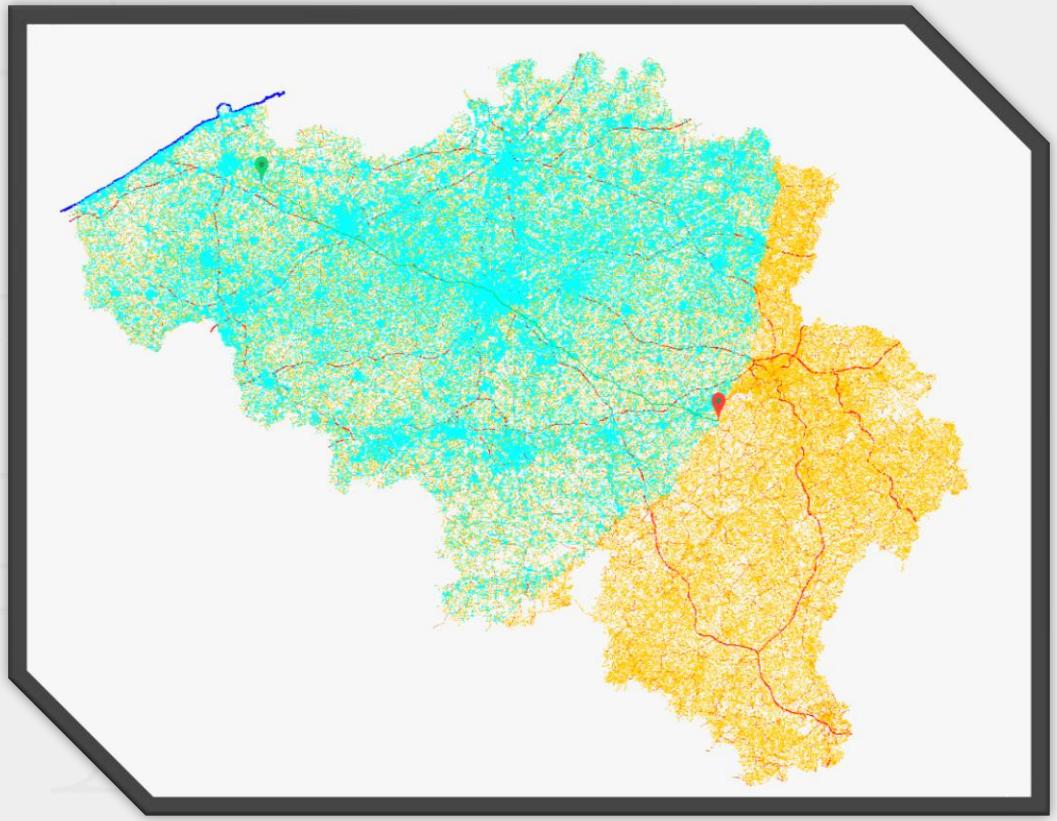
Introduction

Test de validité

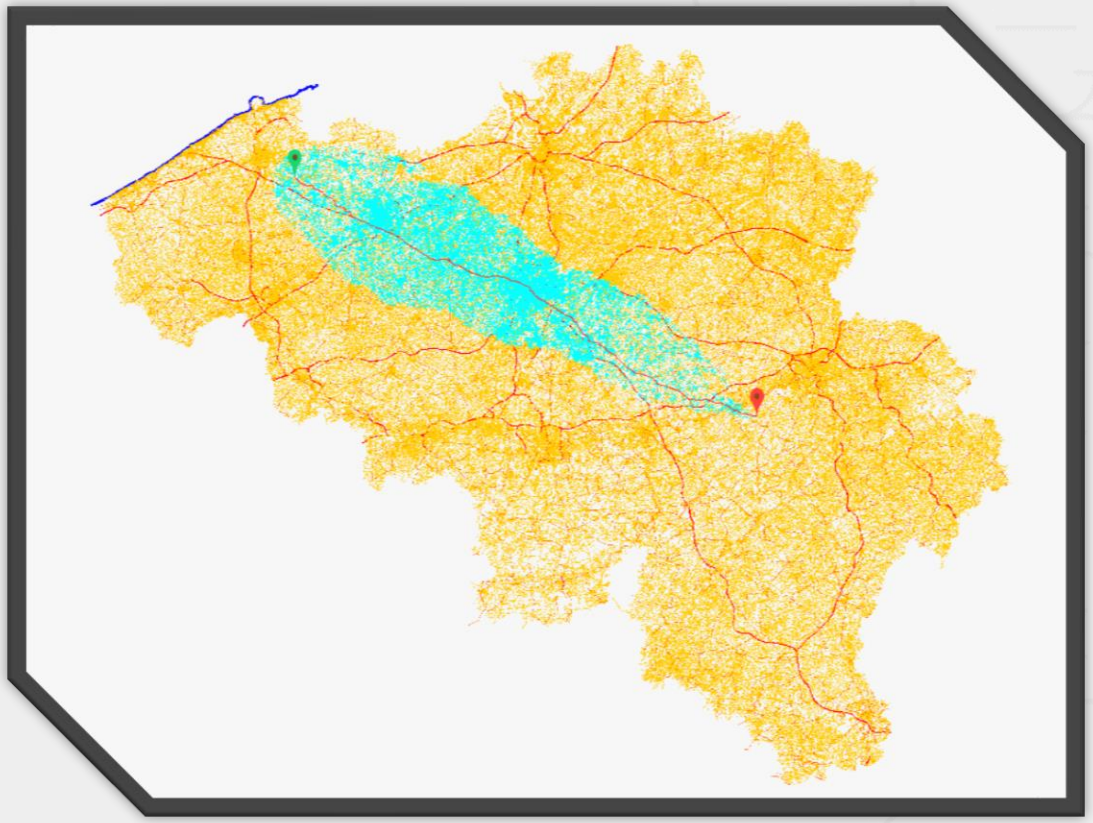
Test de performance

Problème ouvert

Dijkstra vs AStar

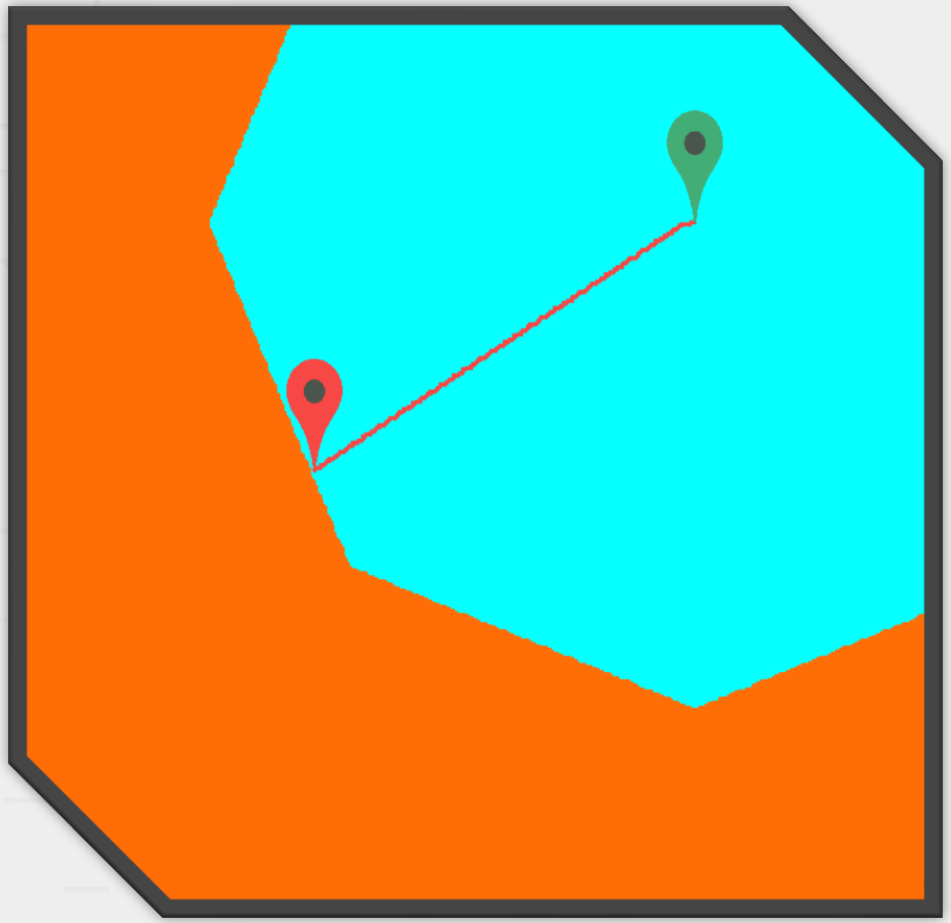


Dijkstra

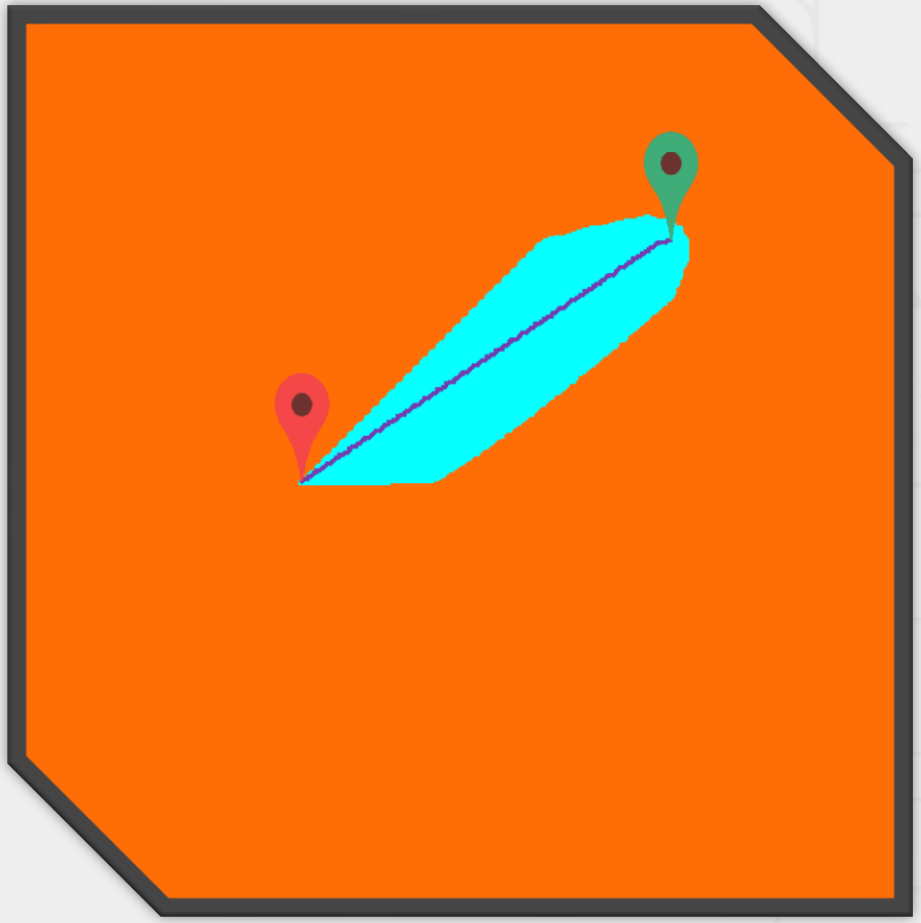


AStar

Le nombre de sommet visités par les deux algorithmes est différent

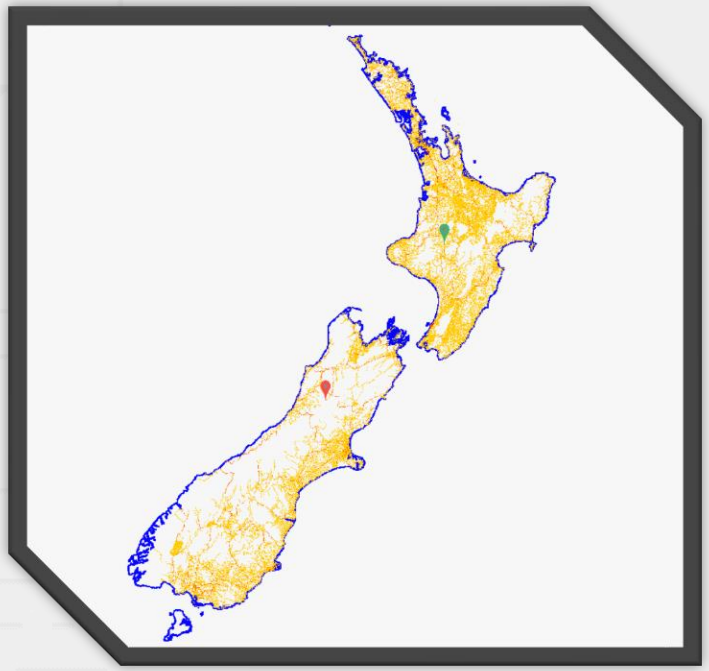


Dijkstra



AStar

Tests de validité



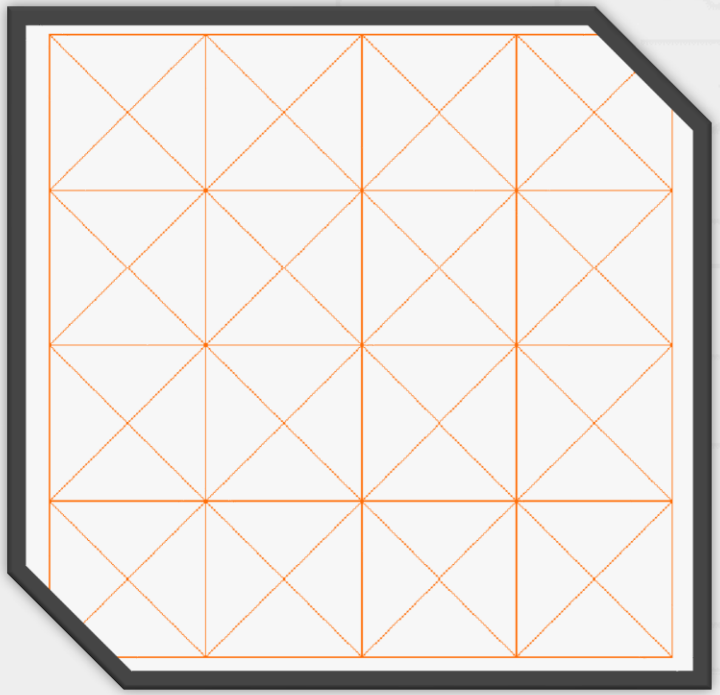
Chemin inexistant

Départ

=

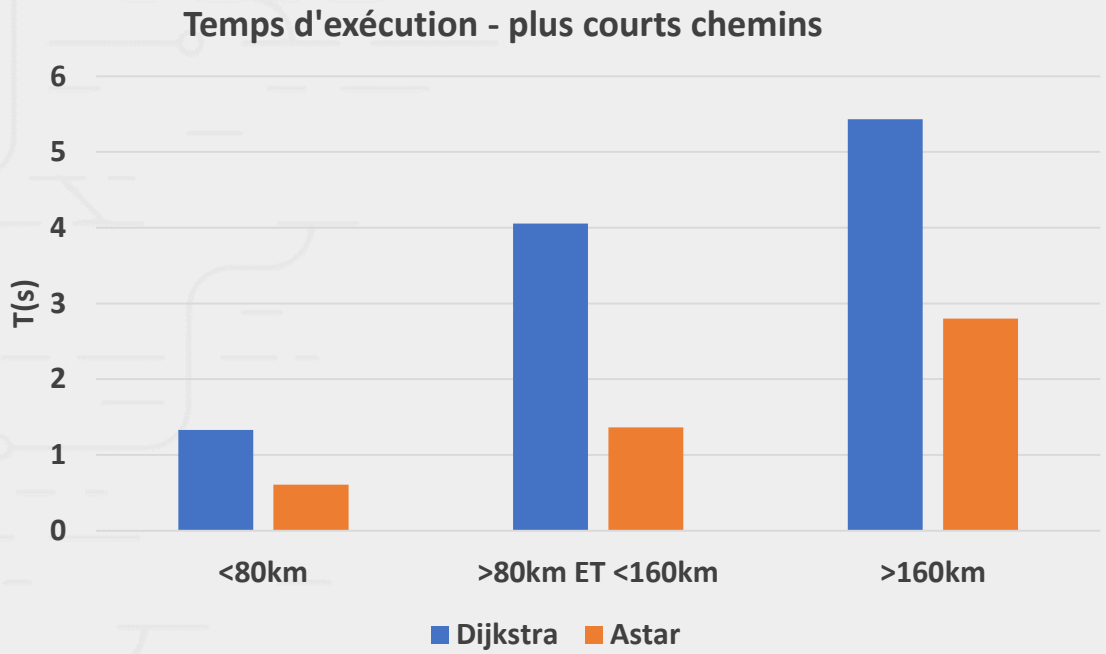
Destination

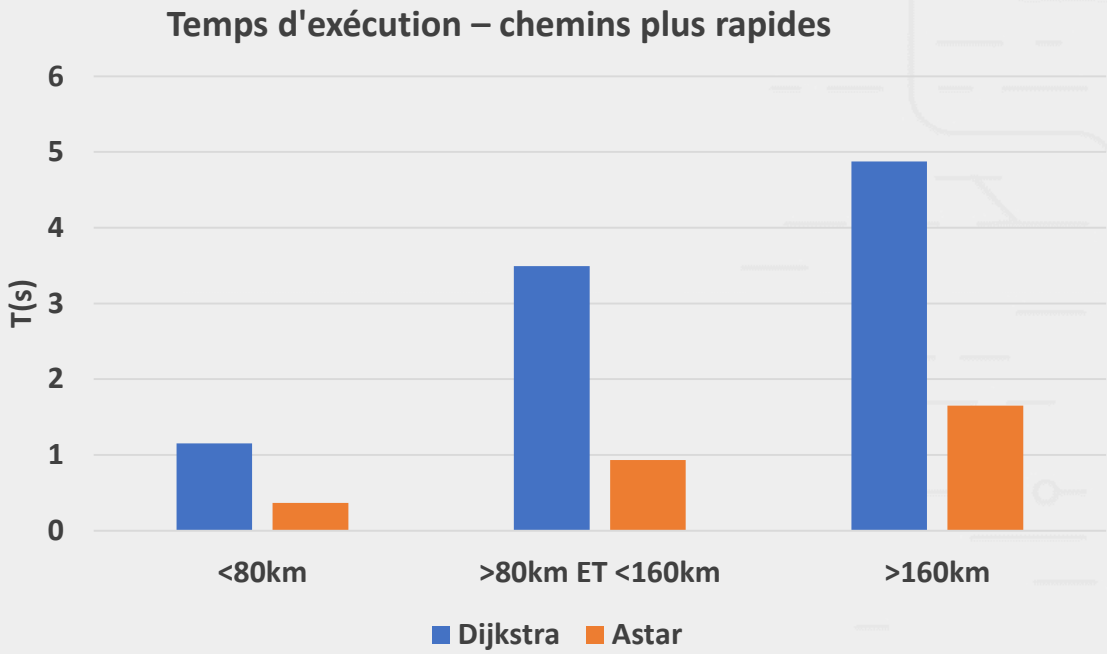
Chemin de longueur nulle



Chemin simple

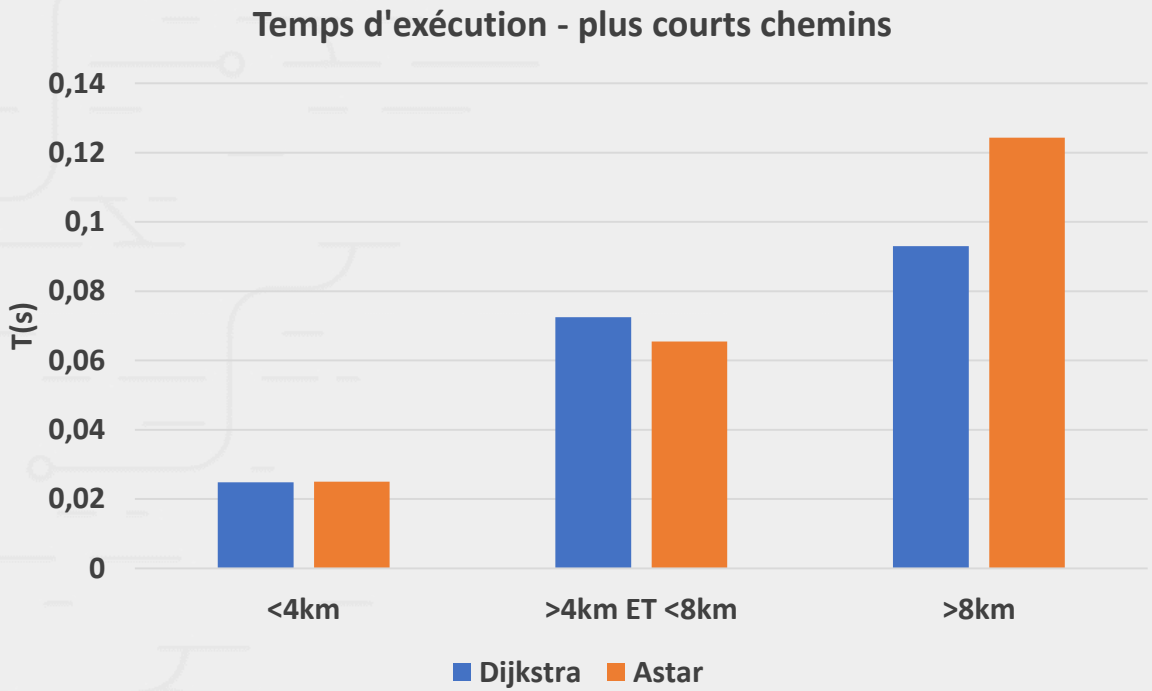
Carte carré-dense

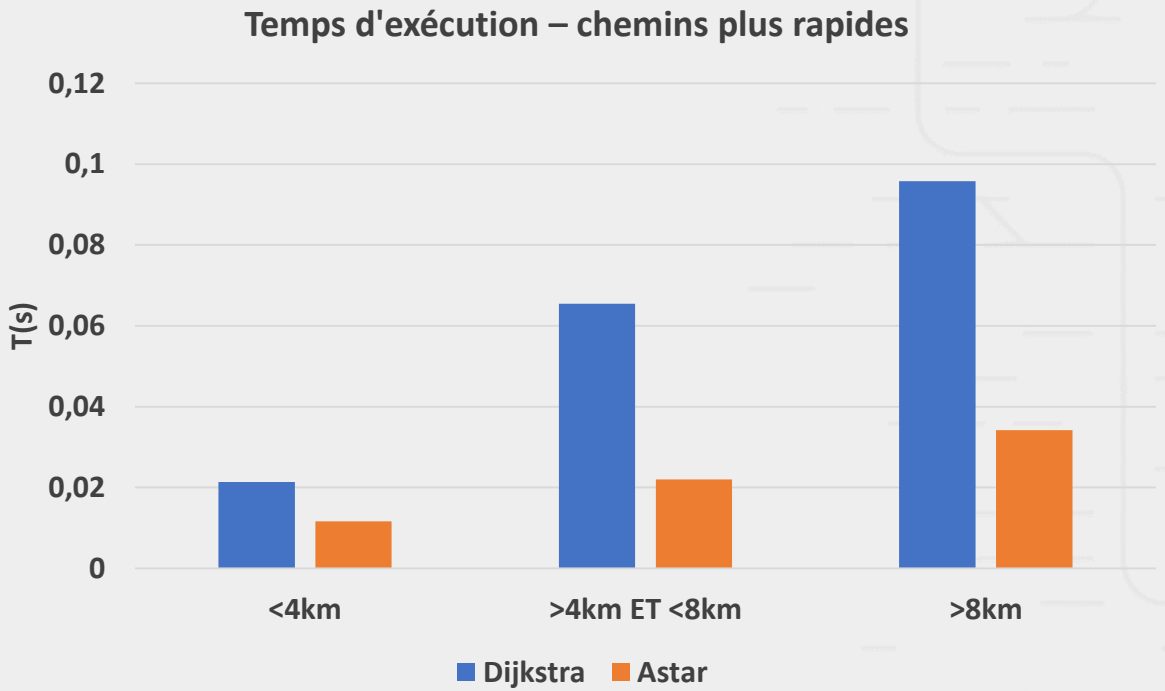




AStar est 2.8 fois plus rapide que Dijkstra.

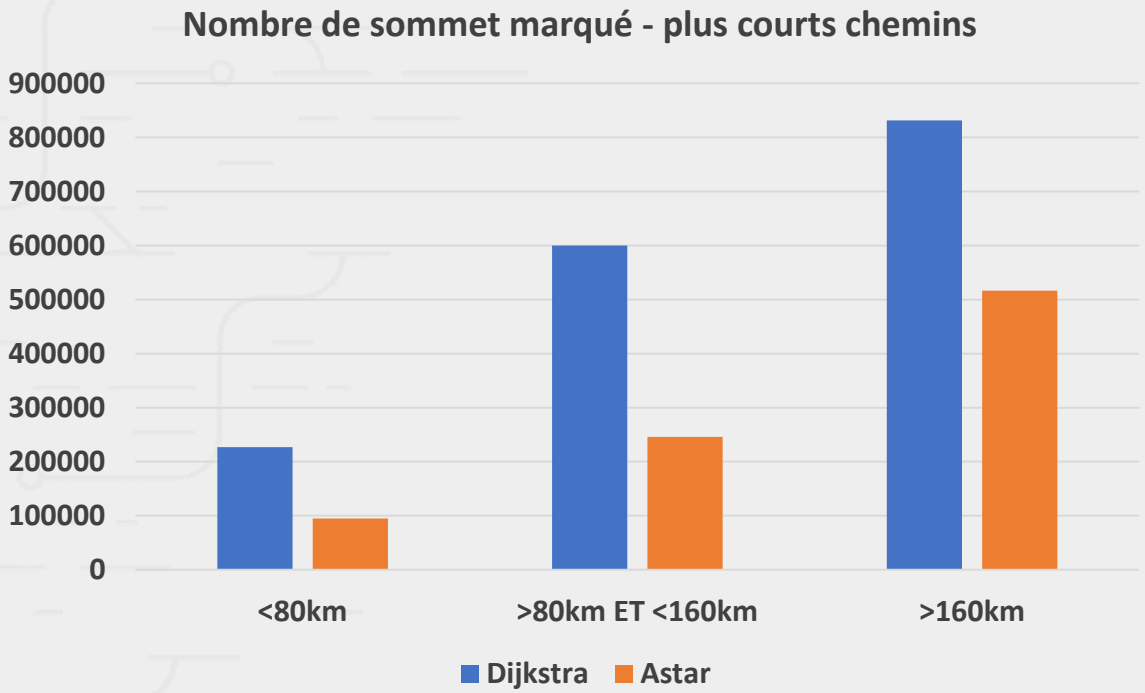
Carte rhône-alpes

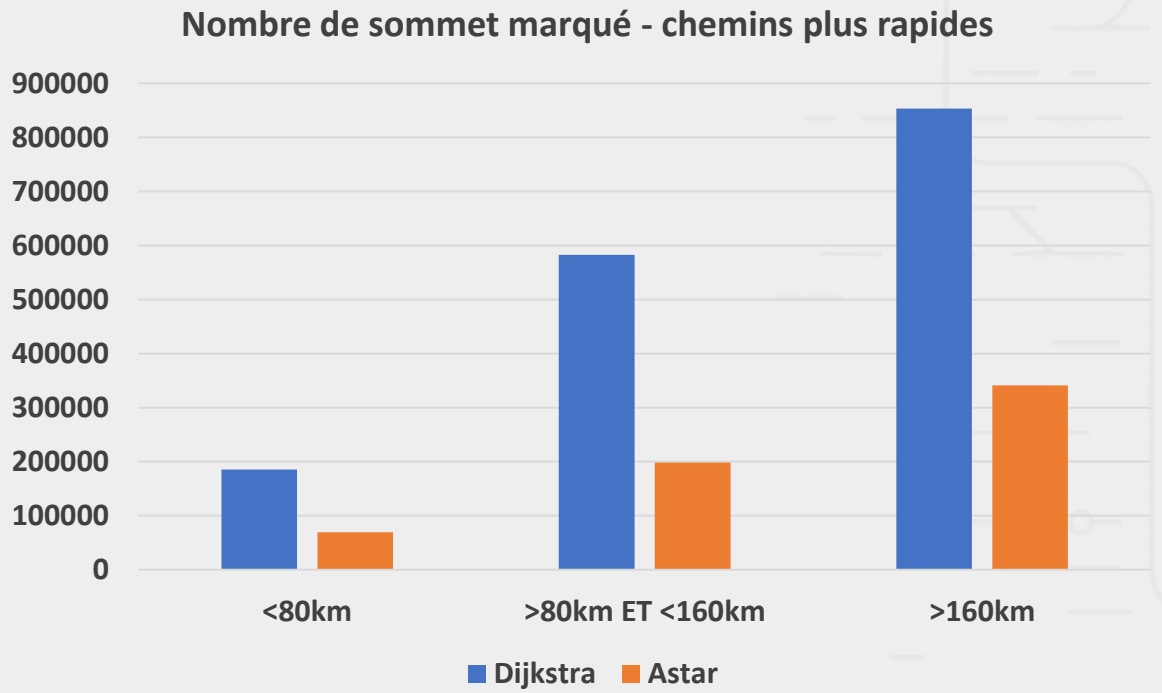




AStar est 1.7 fois plus rapide que Dijkstra.

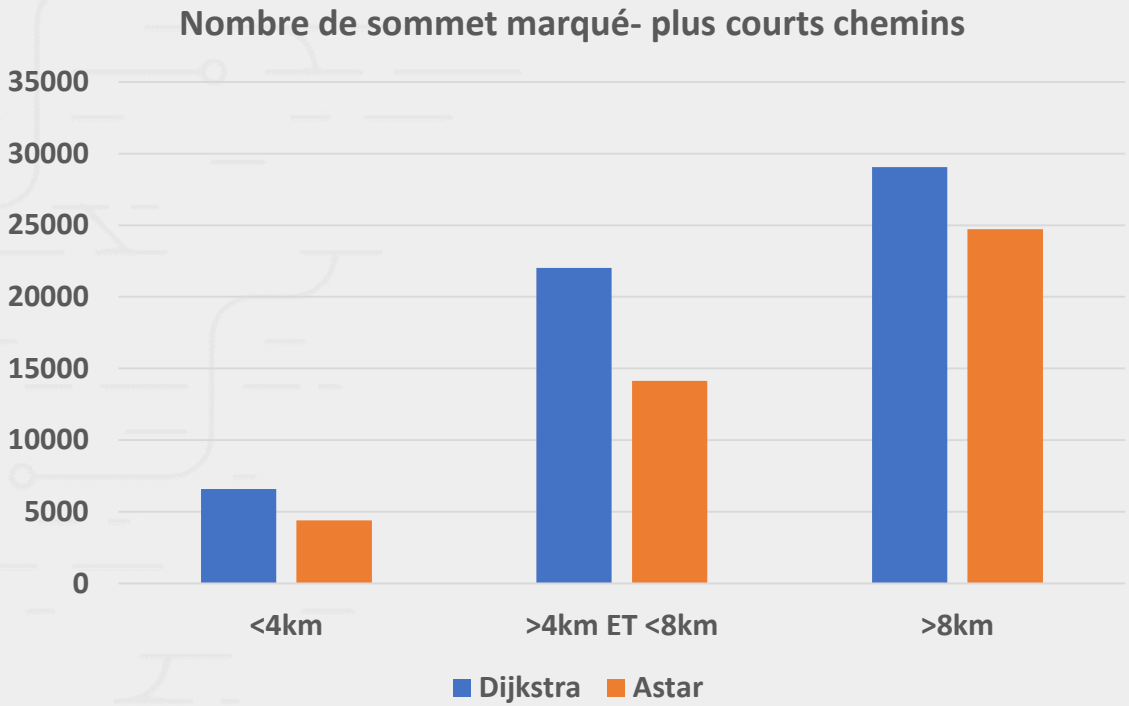
Carte carré-dense

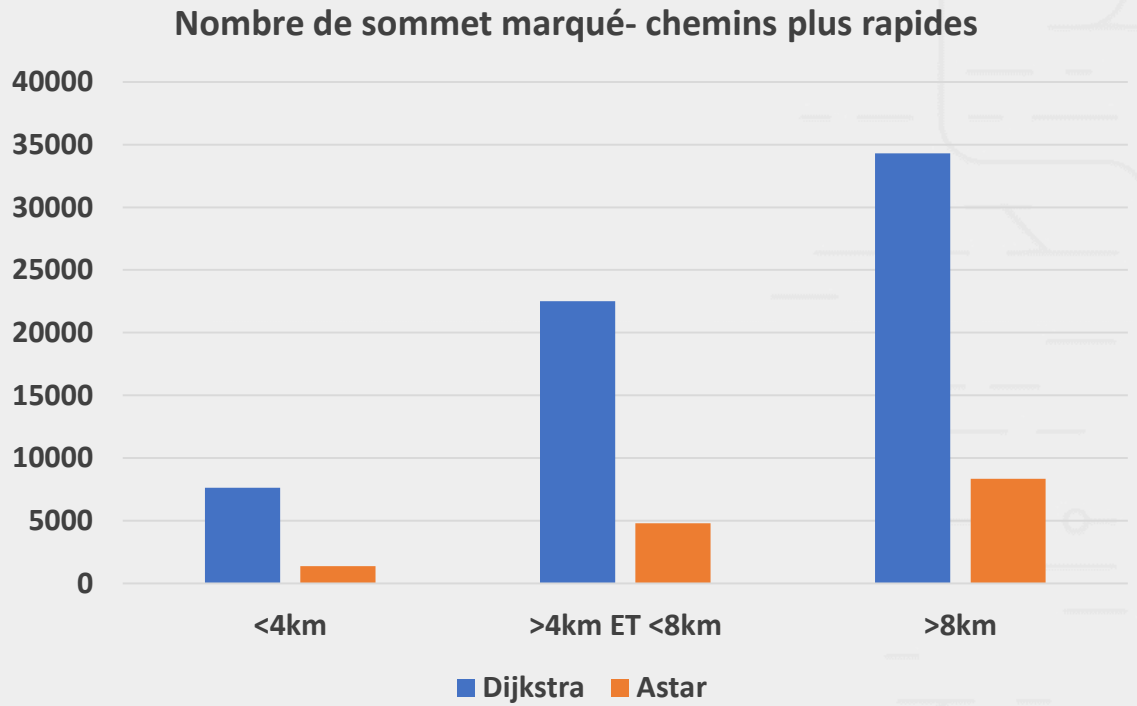




AStar est 2.4 fois plus rapide que Dijkstra.

Carte rhône-alpes

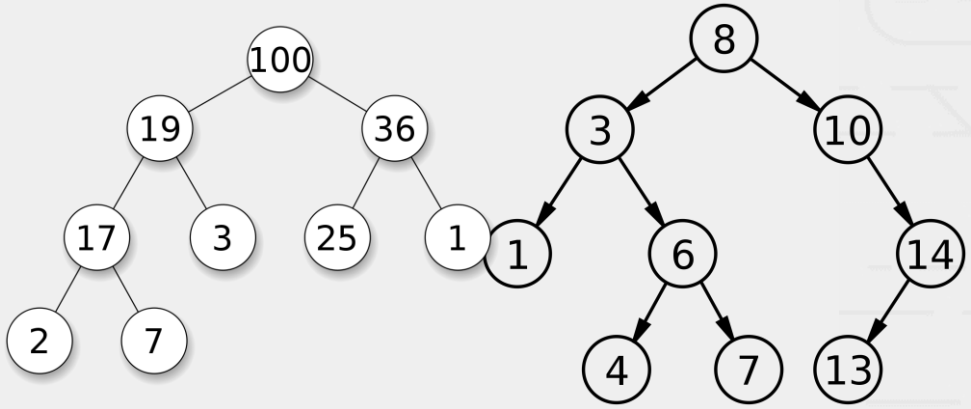




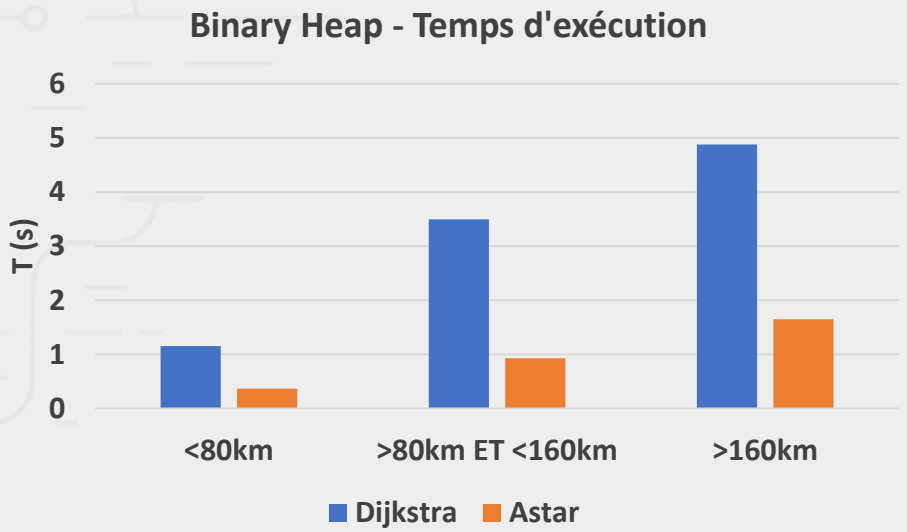
AStar est 3 fois plus rapide que Dijkstra.

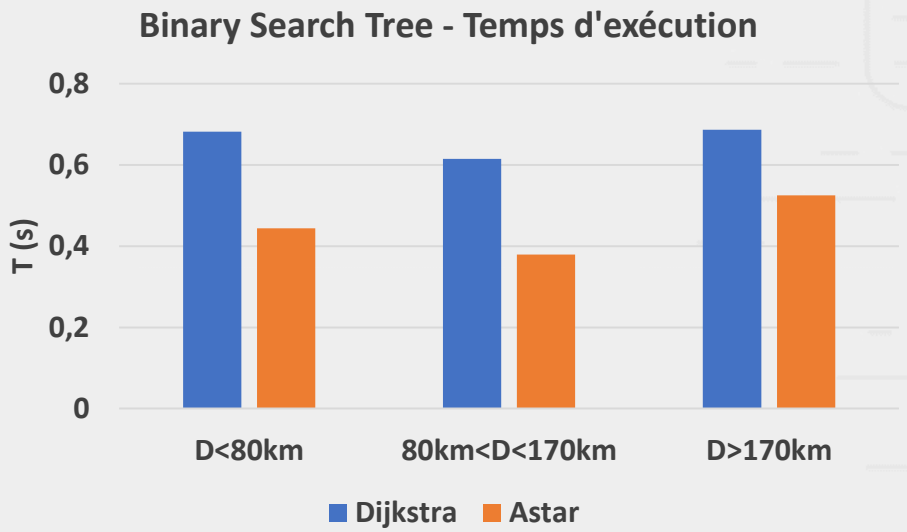
Optimisation du tas binaire

	Tas binaire
insert()	O(log n)
remove()	O(log n)
findMin()	O(1)
indexOf()	O(n)



Optimisation du tas binaire

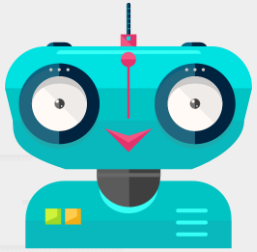




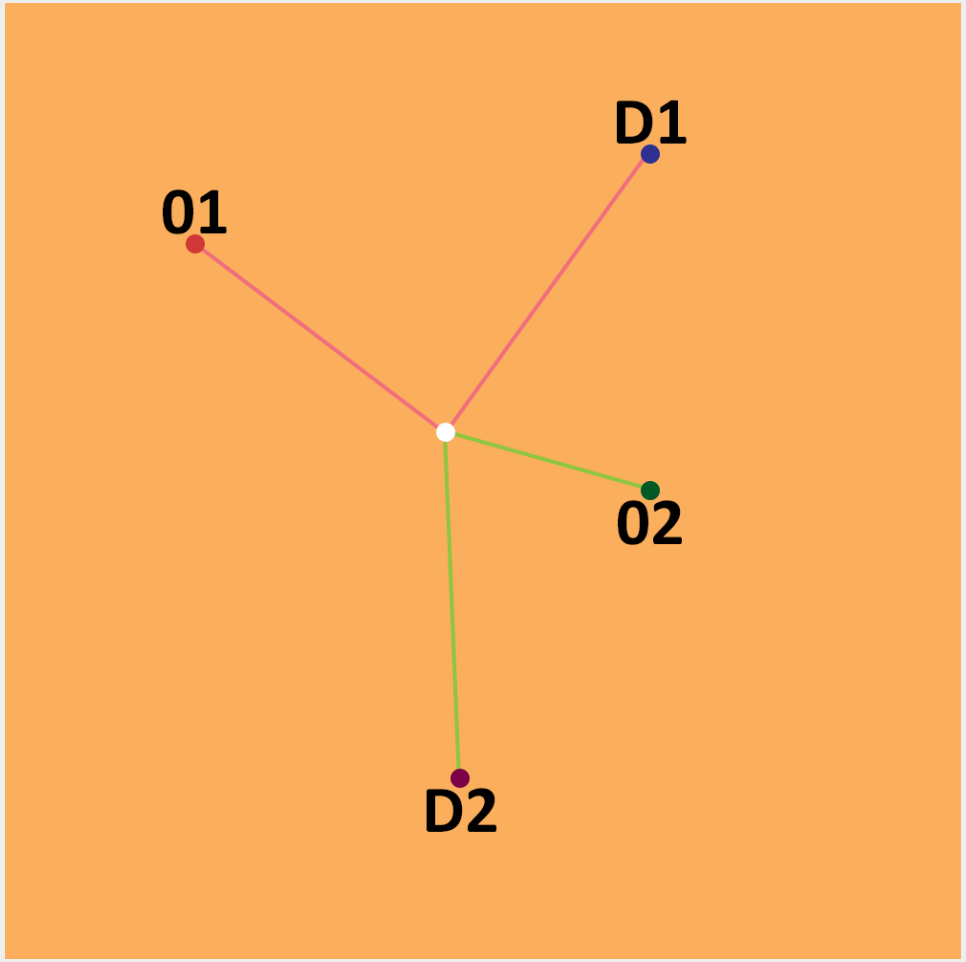
Optimisation du tas binaire

	Tas binaire	Arbre binaire de recherche
insert()	O(log n)	$O(h_{max})$
remove()	O(log n)	$O(h_{max})$
findMin()	O(1)	$O(h_{max})$
indexOf()	O(n)	$O(h_{max})$

Problème ouvert s binaire



Problème ouvert



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