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Project 4 report

1. MyMap:

associate():

If MyMap binary search tree holds N items, then associate() is O(logN);

find()

If MyMap binary search tree holds N items, then find() is O(logN);

1. AttractionMapper:

init():

If there is N StreetSegment and A Attractions in total, init() go through all of them once, so is O(N+A).

getGeoCoord():

If AttractionMapper has N GeoCoord, then getGeoCoord() is O(logN) because it uses find() function in MyMap class.

1. SegmentMapper:

init():

If there is N StreetSegment and A Attractions in total, time complexity is N\*(log(N+A) + A/N\*(log(N+A)), so O((N+A)(log(N+A))

getGeoCoord():

If AttractionMapper has N GeoCoord, then getGeoCoord() is O(logN) because it uses find() function in MyMap class.

1. Navigator:

navigate():

If there is N StreetSegment and A Attractions in total, time complexity is O((N+A)(log(N+A))