REPORT

CS 32 Project 4

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Big-O Time Complexities

MyMap::associate()

If the number of nodes existing in the Binary Search Tree is N, then the time complexity for associate is O(log N).

MyMap::find()

If the number of nodes existing in the Binary Search Tree is N, then the time complexity for find is O(log N).

AttractionMapper::init()

If the number of street segments in total in the MapLoader object is N, and the total number of attractions is A, then the time complexity of init() is O(N log N + A log A).

AttractionMapper::getGeoCoord()

If the number of attractions saved in the AttractionMapper Binary Search Tree is A, then the time complexity of getGeoCoord() is O(log A).

SegmentMapper::init()

If the number of street segments in total in the MapLoader object is N, and the total number of attractions is A, then the time complexity of init() is O(N log N + A log A).

SegmentMapper::getSegments()

If the number of GeoCoords stored in the SegmentMapper Binary Search Tree is G, then the time complexity of getSegments() is O(log G).

Navigator::navigate()

If the number of GeoCoords stored in the SegmentMapper object is G, the number of attractions stored in the AttractionMapper is A, then the time complexity of navigate() is

O(log A + G log G).