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CS 32 Project 4 Report

**MyMap.h**

N is the amount of values stored in the myMap object. The very worst case is if the binary trees traverse to the very bottom leaves for both of these functions. The best case is if it finds the value or associates the value at the root. Every time it goes down a level, it cuts half of the available options.

associate() – O(log2N)

find() – O(log2N)

**AttractionMapper**

If there’s N number of segments and A is the number of segment attractions…

init() – O(N\*A\*LogA) - Each attraction is called as each segment is iterated through. The logA comes from the binary search.

getGeoCoord() – O(log(A)) if A is the number of attractions in the map

**SegmentMapper**

If N is the number of segments and A is the number of segment attractions…

Init() – O(N\*A\*logA) for each segment, a for loop runs through and runs through a binary tree for each attraction.

getSegments() – O(log(N)) – if N is the number of values mapped in the MyMap object.

**Navigator**

Navigate() – O(N + logI + SA) if N is the number of nodes in the open list, I is the number of items in the MyMap object that sm is searching through for the find() function, S is the number of street segments in a vector, and A is the number of attractions