load(): Suppose we have S street segments , P POI locations. Each POI location line has N characters on average. the Big O of my load is O(S+S+S+P\*N)=O(S+P\*N)

get\_connect\_points(): O(1) for whatever data size. Since find in hash table is O(1) on average, and once find, a vector is directly returned.

get\_street\_name(): O(2) = O(1).

route(): I used A\* in this function. I used a hashmap to store connected route, a hashmap to note geopoints as visited, 2 vectors of GeoPoints: one for return and one for collecting GeoPoints connected to the current GeoPoint. Finally, I used a priority queue to store and sort the GeoPoints based on their cost.