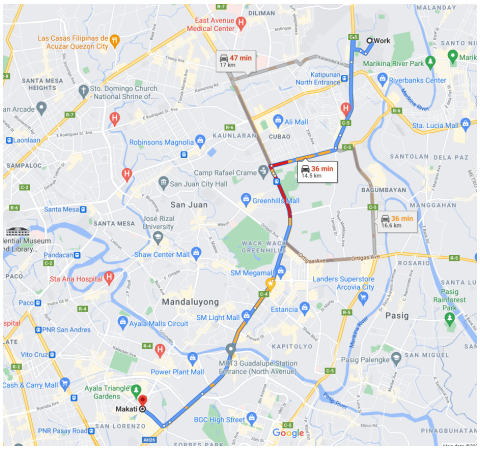
INTRODUCTION TO AI ASSESSMENT #2



This week, we discussed the history of AI, First Order Logic, and Agents as its foundational principles. Answer the following guide questions following the specifications provided.

Please submit this as a PDF on Canvas with the filename following this spec: **IDNUMBER_SURNAME_GRAPHS.pdf**. Submission date will be on the 23th of July 2021. For questions or clarifications, email fbautista@ateneo.edu or acoronel@ateneo.edu.

Intro to Graph Theory
(Answer the following in 3-5 sentences per item)

Describe the problem of a self-driving car navigating to Makati from Ateneo as an agent-based system in an environment.

1) Represent the paths from Ateneo to Makati as a graph. You may use whatever visualization tool you have available. Please have at least 2 nodes between Ateneo and Makati (we don't have teleportation available yet.) Draw the graph out. (3pts)
2) Rebuild the graph you presented in Item#1 as a weighted graph. Assign weights to the edges, define what these weights represent (cost, time, distance, road quality, etc) and draw them out. Feel free to be as creative as you can. You can design weighted edge lists using a dictionary data structure where you have keys as edges and weights as values. (7pts)

   You can use the G = (V,E) mathematical representation to list the graph.
   You can have the edge list of dictionary values as follows:

   V = [V1, V2, V3, V4, ...]
   E = [{V1,V2 : 5}, {V1,V3 : 2}, ...}]