**Homework 3**

Graph and sorting algorithms

For this assignment I created a class to represent the graph, a class to find the best path, a class to perform merge sorts, and a class to perform binary searches. The graph class has a method to construct the graph from the text file. Then the shortest and fastest paths are found by a class Cod and output with this example input are in the pdf files.

The text file will look like:

Intersection Street Intersection Speed

Name Name Name Direction Distance Limit

Alafaya&GeminiN Gemini Gemini&GreekParkCt East .3 35

Gemini&GreekParkCt Gemini Alafaya&GeminiN West .3 35

Gemini&GreekParkCt Gemini Gemini&KnightCtE East .5 35

Gemini&KnightCtE Gemini Gemini&GreekParkCt West .5 35

Gemini&KnightCtE KnightCt Arena North .1 20

Arena KnightCt Gemini&KnightCtW South .1 20

Input:

Gemini&University Arena

Output:

From Gemini&University

Take Gemini Northwest to Gemini&Lynx 0.150000 miles

Take Gemini North to WestGarage 0.050000 miles

Take Gemini Northeast to Centaurus&Gemini 0.050000 miles

Take Gemini North to Aquarius&Gemini 0.050000 miles

Take GreekPark North to Gemini&GreekPark 0.300000 miles

Take Gemini East to Gemini&KnightCt 0.400000 miles

Take KnightCt Northeast to Arena 0.100000 miles

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From Gemini&University

Take Gemini Northwest to Gemini&Lynx 0.257143 min

Take Gemini North to WestGarage 0.085714 min

Take Gemini Northeast to Centaurus&Gemini 0.085714 min

Take Gemini North to Aquarius&Gemini 0.085714 min

Take GreekPark North to Gemini&GreekPark 0.600000 min

Take Gemini East to Gemini&KnightCt 0.685714 min

Take KnightCt Northeast to Arena 0.240000 min