Assignment 2

Find the shortest path in a graph from one node to another is one of the most important problems in AI.

During the lectures we were practicing a lot with a graph of Rumania's main cities and roads. The goal of this problem was to find a path from ARAD to BUCHAREST, sometimes we were finding the best path sometimes we were fine with one path between the two cities.

In this Assignment we will have the map of Spain's main cities and road from city to city. The initial city will be MALAGA and the goal city will be VALLADOLID. In the document (Assignment 2 Spain map), you will find the following information:

| City A | City B | Cost | (You can go from city A to city B and from city B to city A) |

| City A | City C | Cost |

….

City A   Straight_Line_Distance_to_goal

City B   Straight_Line_Distance_to_goal

….

What to do: Your assignment now is to apply Greedy Best-first search and A*, implementing them as it was explained in the lectures, to find the path from **MALAGA** to **VALLADOLID** (Greedy Best-first search will return the first solution found and A* will return the optimum path). You need to present both codes to the teacher. **(1.75 points each code).**

Your report has to cover the key parts as follows:

1. – Explanation of the problem **(1.5 points)**
   a. Give the representation of a solution (answer) of the problem.
   b. Give the equation of **f(n)** used in Gready Best-first Search (or Explain how to calculate f(n)).
   c. Give the equation of **f(n)** used in A* (or Explain how to calculate f(n)).

Maximum Score: 5 points

Soft Deadline: 18 February 2018.

Hard Deadline: 18 March 2018.

Before submitting the report, you should present this assignment first to Miguel Leon. After that, and only if everything is correct, you are able to send the report to Miguel.leonortiz@mdh.se