CS 401 – ARTIFICIAL INTELLIGENCE
PROGRAMMING ASSIGNMENT NO. 1
Spring 2020

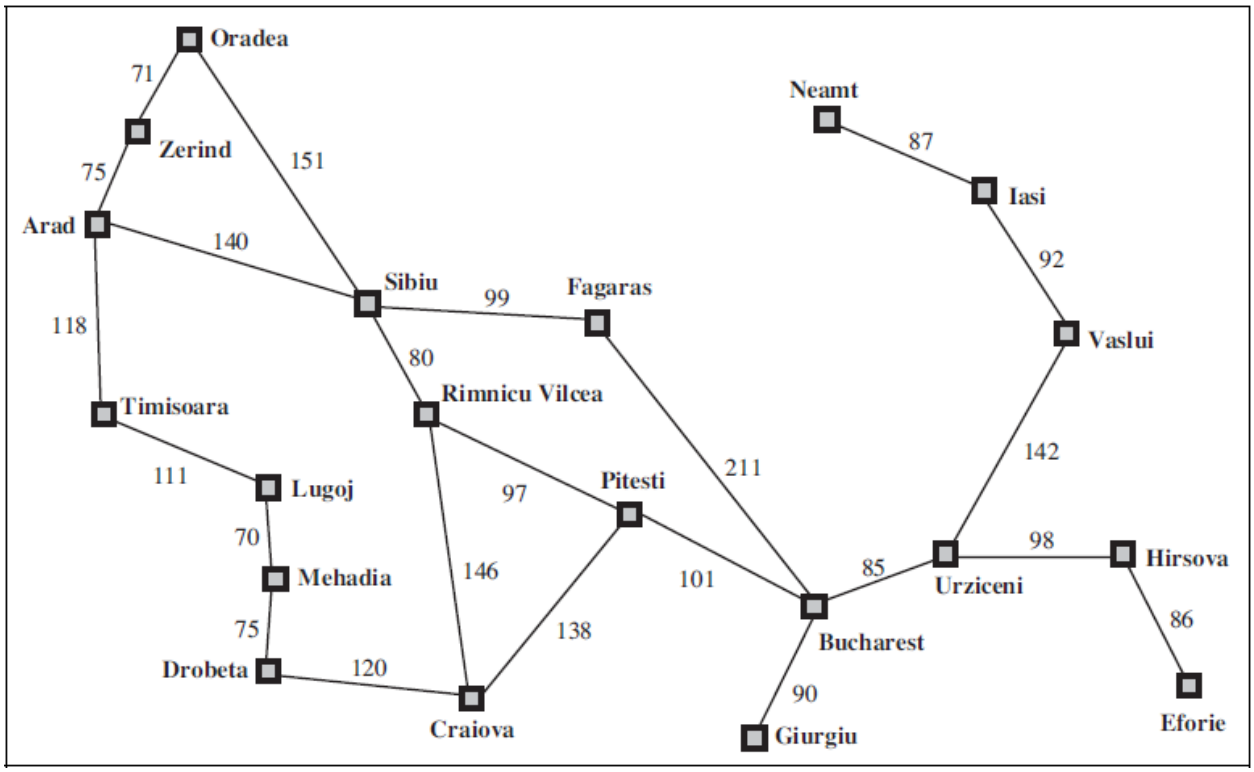
Instructions

This is the first programming assignment for the course CS401-ARTIFICIAL INTELLIGENCE in the offering spring 2020. It is suggested that you should start working on the assignment at your earliest. Question should be solved in one program file named as per suggested scheme. Your student number dash assignment number, e.g K172122-A1

The assignment is for individual and there should not be any case of cheating. Do not share code and instruction for any problem.

Due Date: March 1st, 2020 11:00 PM

Problem 1: You are clear about uninformed and informed strategies now. The example discussed in the class regarding Romania map has to get implemented in this assignment.



Arad	366	**Mehadia**	241
Bucharest	0	**Neamt**	234
Craiova	160	**Oradea**	380
Drobeta	242	**Pitesti**	100
Eforie	161	**Rimnicu Vilcea**	193
Fagaras	176	**Sibiu**	253
Giurgiu	77	**Timisoara**	329
Hirsova	151	**Urziceni**	80
Iasi	226	**Vaslui**	199
Lugoj	244	**Zerind**	374

The map is directly taken up from your book together with the heuristics table. The task is to reach from a particular source to destination using different strategies. This means that user will be facilitated with the option of choosing any random source and destination point at run time. Following are the strategies to be implemented.

a) Breadth first search

b) Uniform cost search

c) Greedy best first search

d) Iterative deepening depth first search

A comparison of these four needs to be done. Complete list of pathway and path cost of each algorithm has to be calculated so that it shows clearly that which algorithm is best out of all in ascending order.

P.S. You are free to use any particular language for this assignment.