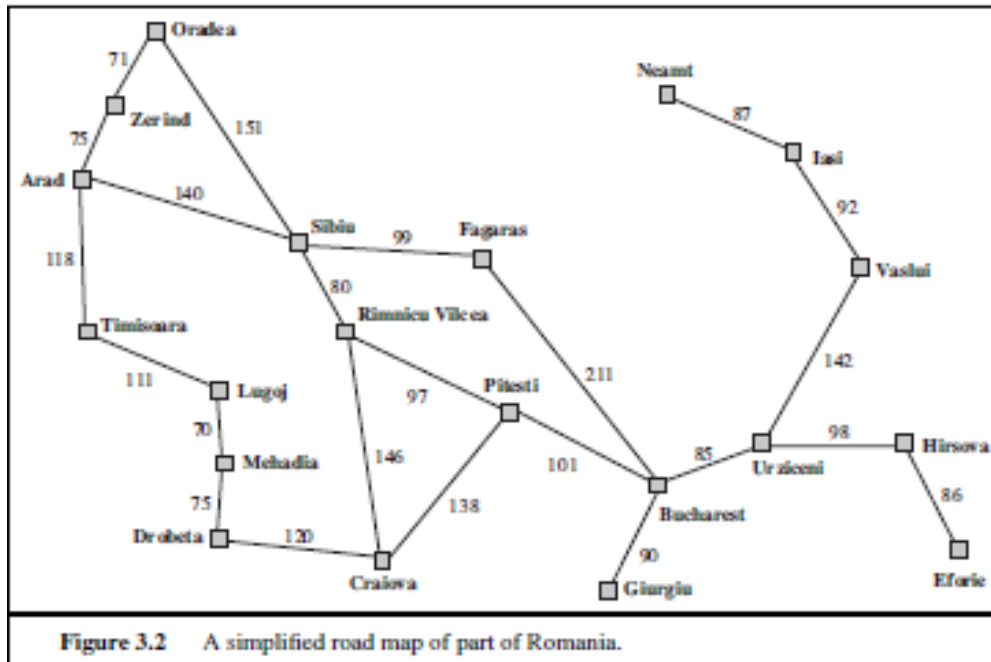


## CS 401 – ARTIFICIAL INTELLIGENCE

### PROGRAMMING ASSIGNMENT NO. 1

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

Figure 3.22 Values of  $h_{SLD}$ —straight-line distances to Bucharest.

The map is directly taken up from your book together with the heuristics table. The task is to reach from Arad to Bucharest using different strategies. Following are the strategies to be implemented.

- BFS
- DFS
- A\* algorithm

A comparison of these three has to be done. 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.