

## Intelligent Systems

# Exercise sheet 5

## Search Methods

### Exercise 1<sup>1</sup> (10 points)

Trace the operation of A\* search applied to the problem of getting to Bucharest from Lugoj using the straight-line distance heuristic. That is, show the sequence of nodes that the algorithm will consider and the f, g, and h score for each node. (See the lecture for the definition of A\*)

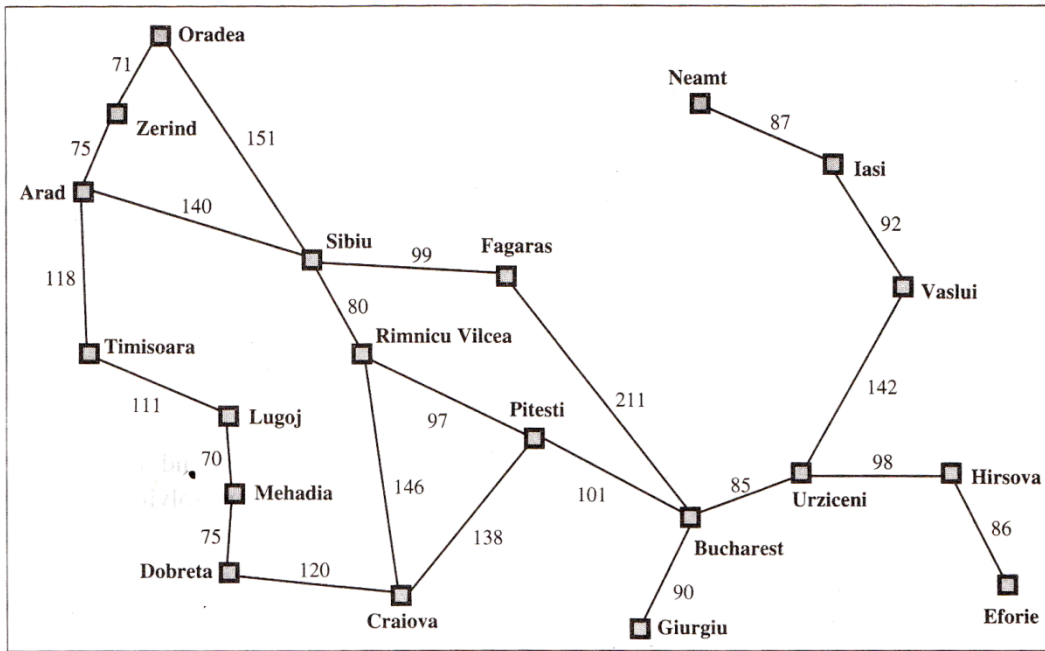


Figure 3.2 A simplified road map of part of Romania.

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

<sup>1</sup> Exercise from Russel/Norvig