

# Search Problems in AI

## Assignment 2

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CS440 Fall 2021

Professor Boularias

Rutgers University - New Brunswick

November 12, 2021

## Problem 1

The sequence of nodes expanded by A\* search, given the tree, and straight line distance heuristics, is in the following order:

0.  $(city, f(city), g(city), h(city))$
1. (Lugoj, 244, 0, 244)
2. (Mehadia, 311, 70, 241)
3. (Lugoj, 384, 140, 244)
4. (Drobeta, 387, 145, 242)
5. (Craiova, 425, 265, 160)
6. (Timisoara, 440, 111, 329)
7. (Lugoj, 446, 222, 244)
8. (Mehadia, 451, 210, 241)
9. (Mehadia, 461, 220, 241)
10. (Pitesti, 503, 403, 100)
11. (Bucharest, 504, 504, 0)

## Problem 2

- (a)
- (b)

## Problem 3

- (a)
- (b)
- (c)
- (d)
- (e)

(f)

(g)

(h)

(i)

#### **Problem 4**

#### **Problem 5**

#### **Problem 6**

#### **Problem 7**

(a)

(b)

(c)

#### **Problem 8**

(a)

(b)

(c)

#### **Problem 9**

(a)

(b)

(c)

(d)

(e)

(f)