

AI (Fall 2020) – Assignment 1  
Search and game tree search

Due: 11:59pm, Tuesday, Sept. 29, 2020

1. Consider travel in Romania from Drobeta to Fagaras. Trace the operation of uniform-cost search with cycle-checking: draw the search tree.
2. The missionaries and cannibals problem (see the lecture notes): Consider the case of  $M = 3$  and  $K = 2$ . Use the heuristic function  $h(n) = M + C - 2B$ . Trace the operation of  $A^*$  with cycle checking: Draw the search tree; for each node, mark its  $g$  and  $h$  values.
3. Perform alpha beta pruning on the following game tree and compute the utility value of the root.

