Übung Künstliche Intelligenz WS 14/15
Wirtschaftsinformatik und Maschinelles Lernen (ISMLL)
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Exercise Sheet 2

Submission: Tuesday, 11.11.2014, 10:00am

Exercise 1 Problem Description   (7 Points)

a) Explain the six components of an AI problem.   (3 Points)

b) Describe the six components of TIC-TAC-TOE from the perspective of
   the circle player. The circle player is also starting.   (4 Points)

Exercise 2   Uninformed Search   (13 Points)

a) Explain the Iterative Deepening Search characteristics (Completeness, Op-
   timality, Time complexity and Space complexity)   (4
   Points)

b) Imagine you want to travel from Nienhagen to Goslar, that only the con-
   nections of the shown Search tree exist, (Hi: Hildesheim, Go: Goslar, Ha:
   Hannover, Ni: Nienhagen, Br: Braunschweig, Al: Alfeld, Gö: Göttingen,
   Sa: Salzgitter, Hm: Hameln), and that the arcs are travel times [1].
   Use the Depth First Search, the Breadth-First Search and Uniform Cost
   Search to find the way from Nienhagen to Goslar. Report all your steps.
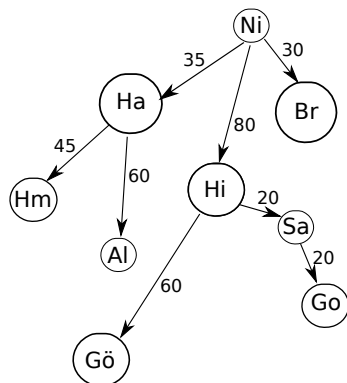
                                                                (5 Points)

c) Which strategy in b) is the most successful if we consider (a) travel times,
   (b) the number of seen cities, (c) computational issues?   (4 Points)

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[1]Travel times are invented