Introduction to Multi-Agent-Programming

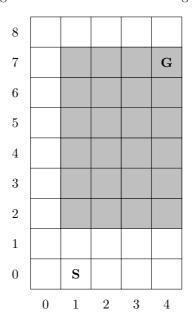
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Exercise Sheet 3 Due: November 16th, 2010

Exercise 3.1 (Search and Path-Finding)

Consider the following grid world. A robot S is moving to G.



Moving into a white cell costs 1, and moving into a gray cell costs 2.

- (a) Draw the optimal trajectory. (1pt)
- (b) A* is used in the search. The heuristic is Manhattan distance. Is this heuristic admissible, why? (1pt)
- (c) Define the second heuristic which is admissible. (1pt)
- (d) Use real-time adaptive A^* to solve the problem. (look ahead 2 steps). (2pt)

This exercise should be submitted during the lecture on Tuesday (Nov. 16th)