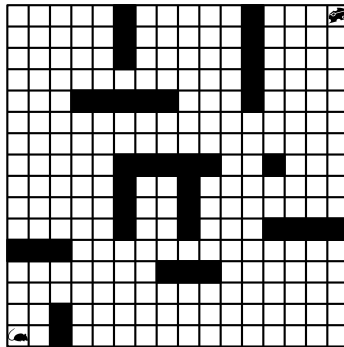# Problem Solving and Search in AI
Tutorial 2 (on May 13th)

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Exercise 2.1:
Show how to use the A^*-Algorithm, to find the shortest path in the maze, starting from the mouse and ending in the cheese.

Exercise 2.2
Consider the *Bridge-Crossing Problem*, where 4 persons are on one side of a bridge and all of them need to end up on the other side. It is night and they have only on flashlight. Though, the bridge is build to only withstand 2 persons. Also, the flashlight needs to be brought back to the remaining persons on the other side. Each person walks with a different speed and when they go together they must walk at the speed of the slowest. The goal is to find the minimal time for all persons to cross the bridge.

a) Design a dynamic programming algorithm to compute the solution.

b) Is there a general procedure which finds an optimal solution for an arbitrary number of people and crossing times?