## Introduction to Multi-Agent-Programming

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Exercise Sheet 12
Due: Febuary 1st, 2011

## Exercise 12.1 (Eligibility Traces)

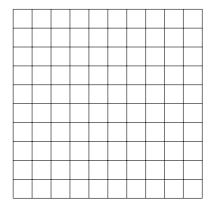
Consider the following two trials  $(t_1 \text{ and } t_2)$  in the grid world. Both trials start at the cell (0,0) and end at the cell (2,2). +1 and -1 are the rewards.

2		-1	$t_1, t_2, +1$
1		$t_1$	$t_1, t_2$
0	$t_1, t_2$	$t_1, t_2$	$t_2$
	0	1	2

(a) Compute the Q values of the cells using eligibility traces.(3pt)

## Exercise 12.2 (Tile Coding)

Consider the following grid world.



(a) Use tile coding to model the world, and explain how much memory can be reduced (2pt)
$ \begin{array}{c} \Gamma his \ exercise \ should \ be \ submitted \ during \ the \ lecture \ on \ Tuesday \ (Feb. \\ lst) \end{array} $