

Multiagent Systems Study Guide

Artificial Intelligence

1 Game Theory

1. Given this payoff matrix for the Battle of the Sexes game:

	LW	WL
LW	^a 2, 1	^b 0, 0
WL	^c 0, 0	^d 1, 2

Which cell, or cells is/are a Nash equilibrium?

Solution: a and d

2. Given this payoff matrix for the Prisoner's Dilemma game:

	C	D
C	^a -1, -1	^b -5, 0
D	^c 0, -5	^d -3, -3

Which cell, or cells is/are a Nash equilibrium?

Solution: d

3. In Axelrod's famous computer Iterated Prisoner's Dilemma tournaments, which high-level strategy was best, on average?

Solution: Tit For Tat