

Natural Computing, Assignment 5

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a) A Nash equilibrium occurs in the states (S, S) and (H, H) . If we are in either of those states, no player can gain anything by changing their strategy, and in fact, they both lose 1.

The candidate ESS's are the NE's, so both (S, S) and (H, H) are candidates. They both are ESS, since $P(S, S) = 1 > 0 = P(H, S)$ and $P(H, H) = 1 > 0 = P(S, H)$.

b) Here, only the state (S, S) is a strict Nash equilibrium. The state (H, H) is a Nash equilibrium, since for both players, the best response to H has 0 payoff, although this payoff is gained by choosing either one of S or H.

The other states are not Nash equilibria, since the response to S should always be S (for both players, because of the symmetry of the game).

c) In this game the only Nash equilibrium is (S, S) . The player changing to H will lose 1, so this is not the best response.

d)

d)

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