Game Theory WS 2013/2014

7. Exercise Sheet

24. Suppose that a mixed strategy σ_i of a player i strictly dominates another of his mixed strategies $\widehat{\sigma}_i$. Prove or disprove each of the following claims

    (a) Player i has a pure strategy $s_i \in S_i$ satisfying (i) $\widehat{\sigma}_i(s_i) > 0$ and (ii) strategy s_i is not chosen by player i in any equilibrium.

    (b) For each equilibrium $\sigma^* = (\sigma_i^*)_{i \in N}$ player i has a pure strategy $s_i \in S_i$ satisfying (i) $\widehat{\sigma}_i(s_i) > 0$ and (ii) $\sigma_i^*(s_i) = 0$.

25. Suppose player i has a pure strategy s_i that is not weakly dominated by any of his other pure strategies. Is s_i chosen with positive probability in one of player i's maxmin strategies? Prove this claim or provide a counterexample.