Lecture Notes week 5

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1 Lecture 1

Example: Coordination Game
40% upscaled and 60% low-priced.
Competitor $= 4 \cdot you$.

American Footbal Game
$P_2(p, run) = p \cdot 0 + (1-p) \cdot (-10) = 10p - 10$
$P_2(p, pass) = p \cdot (-5) + (1-p) \cdot 0 = -5p$

If $p > \frac{2}{3} \implies 10p - 10 > -5p \implies 2^{nd}$ player: run.
If $p < \frac{2}{3} \implies 10p - 10 < -5p \implies 2^{nd}$ player: pass.

$P_1(p, q) = \sum_i p_i(S_i) \cdot \sum_j q_j \cdot P_1(S_i, S_j)$
$P_1(S_i, q) = \sum_j q_j \cdot P_1(S_i, S_j)$
$P_1(p, q) = P_1(S_i, q)\ \forall S_i$
$\implies 1 \cdot P_1 p, q \geq \sum_i p'_i \cdot P_1(S_i.q) = P_1(p', q)$

2 Lecture 2