ECO316: Applied Game Theory

Problem Set #3 Solutions

1. **Finding Mixed-Strategy Equilibria:**

   (a) Let p be the probability that Player B plays Left. For Player A to be indifferent between Up and Down, p must satisfy:

$$\begin{aligned} U(Up) &= U(Down) \\ 3p - (1-p) &= 2p \\ 2p &= 1 \\ p &= 1/2 \end{aligned}$$

   Similarly, let q be the probability that Player A plays Up. For Player B to be indifferent between Left and Right, q must satisfy:

$$U(Left) = U(Right)$$