Solutions to Assignment 2
Stat 155: Game Theory

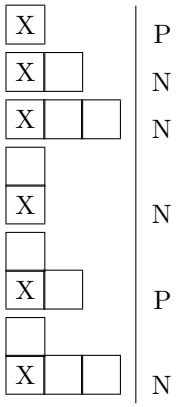
Question 1

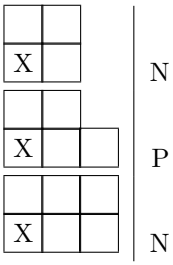
This is a simple restatement of the subtraction game we have discussed in Assignment #1. The answer is also exactly the same.

Question 2

The game of Chomp can also be solved using backward induction on P and N-positions as before. In this case, a position is a chomped board object instead of a number as in the case of subtraction or addition games.

a) The following table gives the list of all P and N positions of the 2×3 game of Chomp,





b) The winning strategy of Player I is to remove the one small square at the very top right in the first move. This is also its unique winning strategy. Most of the responses from Player II will lead to winning in the next step. If Player II removes the lower rightmost square, then Player should remove the top right square again in order to win.