

Stat 155 Fall 2009: Homework 2

Due September 17, 2009

- *Please show all your steps. No credit will be given for just giving the answer, without any supporting work.*
 - *Grading: 3 points for a complete solution, 2 points for an almost correct solution, 1 point for some correct work, 0 otherwise*
1. Problem 2.1 on page 44 in “Game Theory, Alive”.
 2. Problem 2.11 on page 45 in “Game Theory, Alive”.
 3. Lasker’s Nim (proposed by Edward Lasker, brother of Emanuel Lasker) is Nim as usual, with the following additional option: choose a heap, and split it into two smaller non-empty heaps (no chips are removed). For instance, starting with one pile of 3 chips, you can move to one pile of 2, 1, 0 chips, or to two piles with 2 chips and 1 chip respectively. Consider Lasker’s Nim with a starting position of $(1, 2, 3)$. Is this a P -position or an N -position?
 4. If the given starting position in problem 3 is an N -position, what would be a winning move?