

1. Play a computer program at Dots & Boxes. There are a number of them available on the web, and I've put a link to at least one in my homepage. You should be able to win by both moving first and by moving second. Report your success. In particular, on what size boards you can win against the computer? Is it easy to win? What programs did you play against?
2. Prove, by induction, that any all-small game is infinitesimal.
3. A clobber  $n$ -snake has  $n$  black stones followed by a white stone. So  $\bullet\bullet\bullet\bullet\circ$  is a 4-snake. Prove that an  $n$ -snake equals an  $(n - 1)$ -snake plus  $\uparrow^*$ . For example,

$$\boxed{\bullet\bullet\bullet\bullet\bullet\bullet\circ} = \boxed{\bullet\bullet\bullet\bullet\bullet\circ} + \uparrow^*$$