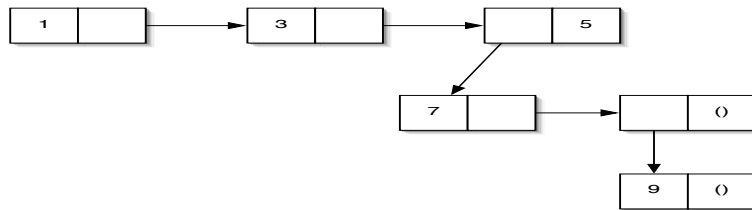


Name \_\_\_\_\_ Section \_\_\_\_\_ TA \_\_\_\_\_

1. The interpreter represents structures using dots and parentheses, as in (1 . 2) or (1 2 3).  
Show the way the interpreter represents this structure:



2. How many nodes do we expect in a balanced binary tree of height 8? Show your calculations.
3. How many nodes do we expect in the **bottom row** of a balanced binary tree of height 54? Show your calculations.
4. Assume a tree of 60 nodes is as balanced as it can be. What is the height of the tree? Show your calculations.