

### 3-Zebra Trees

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An ordered tree, also known as a plane tree or a planar tree, is defined recursively as having a root and an ordered set of subtrees. A *3-zebra tree* is an ordered tree where all edges connected to the root (call this height 1) are tricolored as are all edges at odd height. The edges at even height are all black as usual. In this presentation we show that the number of *3-zebra trees* with  $n$  edges is the number of Schröder paths with bicolored level steps. We also use Riordan arrays to show that the average degree of the root for 3-zebra trees is  $2\sqrt{3} + 1 \approx 4.464$

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