Tracing: Computing a Tree's Height



BT Terminology: LST vs. RST



BT Terminology: LST vs. RST



BT Terminology: Depths, Levels, Max # of Nodes



BT Terminology: Complete vs. Full BTs



BT Properties: Bounding # of Nodes

Given a *binary tree* with *height h*, the *number of nodes n* is bounded as:

 $h+1 \le n \le 2^{h+1}-1$

For example, say h = 3

Minimum # of nodes

Maximum # of nodes

BT Properties: Bounding Height of Tree

Given a *binary tree* with *n* **nodes**, the **height** *h* is bounded as:

 $log(n+1) - 1 \le h \le n-1$

For example, say **n** = 7

Minimum height

Maximum height

Applications of **Binary** Trees: Infix Notation



Q. Is the binary tree necessarily proper?

TRAVEL THE WORLD

Binary Tree Traversals

