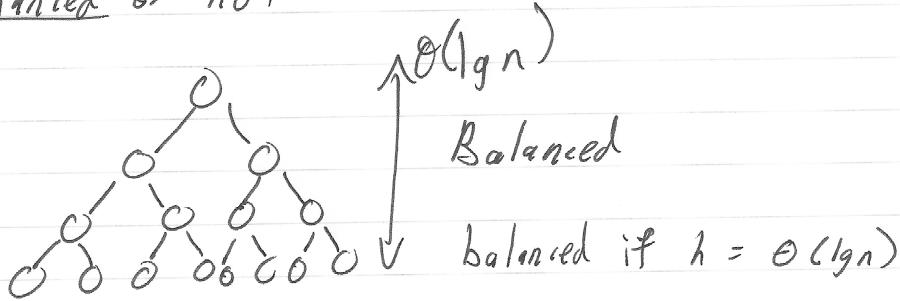
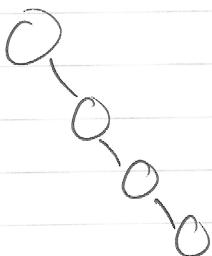


Balanced or not :



balanced if $h = \Theta(\lg n)$



unbalanced

$h = \text{length of longest path from root to leaf}$

height of a node in a tree

longest path from that node to a leaf

depth of a node in a tree

distance from the node to the root

height of a node

max { height (left ^{child} node),
height (right ^{child} node) } + 1

Data structure augmentation

AVL trees:

require heights of left & right children of every node to differ by at most ± 1

$$|h_i - h_r| \leq 1$$