AVL Trees are balanced!

height always $\Theta(\lg n)$

worst case is when right subtree has height one more than left for every node

etc

$N_H = $ min # nodes in an AVL tree of height h.

$N_{O(1)} = O(1)$

$N_h = 1 + \underset{\text{right}}{N_{h-1}} + \underset{\text{left}}{N_{h-2}}$

$= 1 + N(h-1) + N(h-2)$

Almost Fibonacci $N_h > F_h = \Phi^h / \sqrt{5}$

phi $\uparrow 1$
≈ 1.618

$\dfrac{\Phi^h}{\sqrt{5}} < n$

$h - \dots < \log_\Phi n \quad \approx 1.440 \lg n$