

Analysis

#1) The smallest height is $\log_2 N$ (rounded). 1 is height 1. 3 nodes is height 2. 7 nodes is height 3. The biggest height would be N because if the sequence of numbers is something like 1,2,3,4; there would have to be one new row added every time.

#2) N is the worst case because $\log n$ is usually used and is more efficient than N . Just an educated guess to be honest.