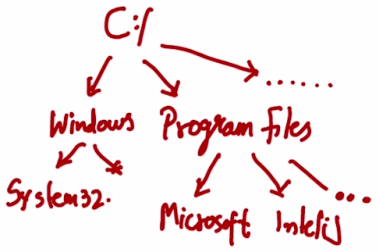
Types of Binary Trees

Tree → Non linear → Ideal for representing hierarchical data

Array, Stack, Queue, Linked list → Linear

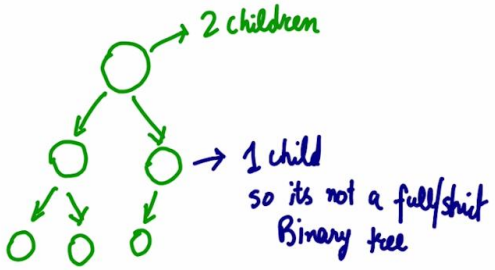
In a tree with n nodes → n-1 edges!



Types of Binary Trees

① Full or Strict Binary Tree

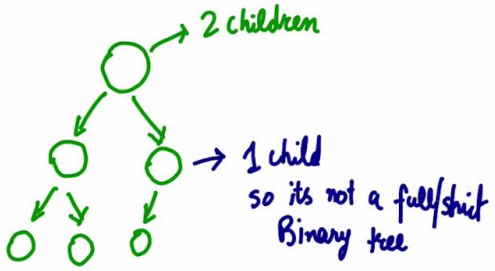
All nodes have either 0 or 2 children



Types of Binary Trees

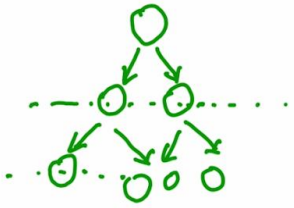
① Full or Strict Binary Tree

All nodes have either 0 or 2 children



② Perfect Binary Tree

Internal nodes have 2 children + all leaf nodes are on same level



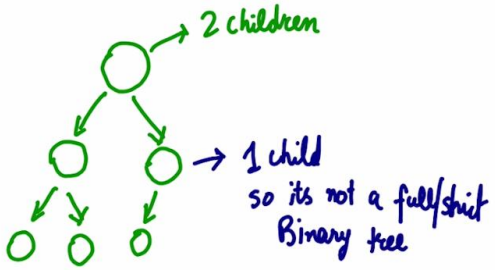
Types of Binary Trees

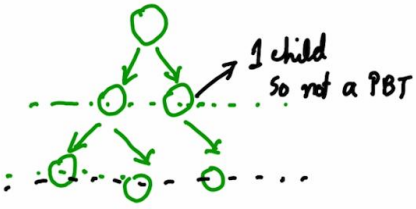
① Full or Strict Binary Tree

All nodes have either 0 or 2 children

② Perfect Binary Tree

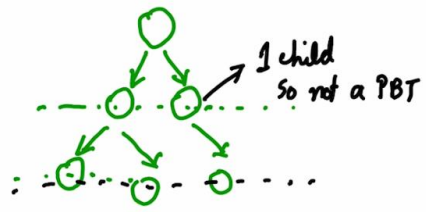
Internal nodes have 2 children + all leaf nodes are on same level





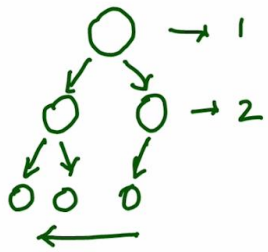
② Perfect Binary Tree

Internal nodes have 2 children + all leaf nodes are on same level



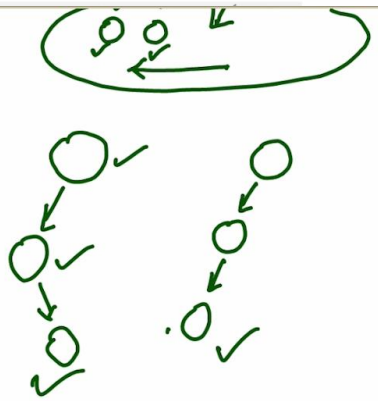
③ Complete Binary Tree

All levels are completely filled except possibly the last level + last level must have its keys as left as possible



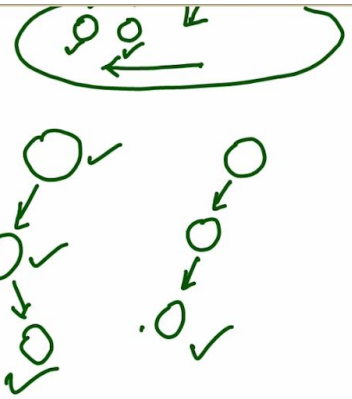
④ Degenerate Tree

Every Parent node has exactly one child



④ Degenerate Tree

Every Parent node has exactly one child



⑤ Skewed Trees