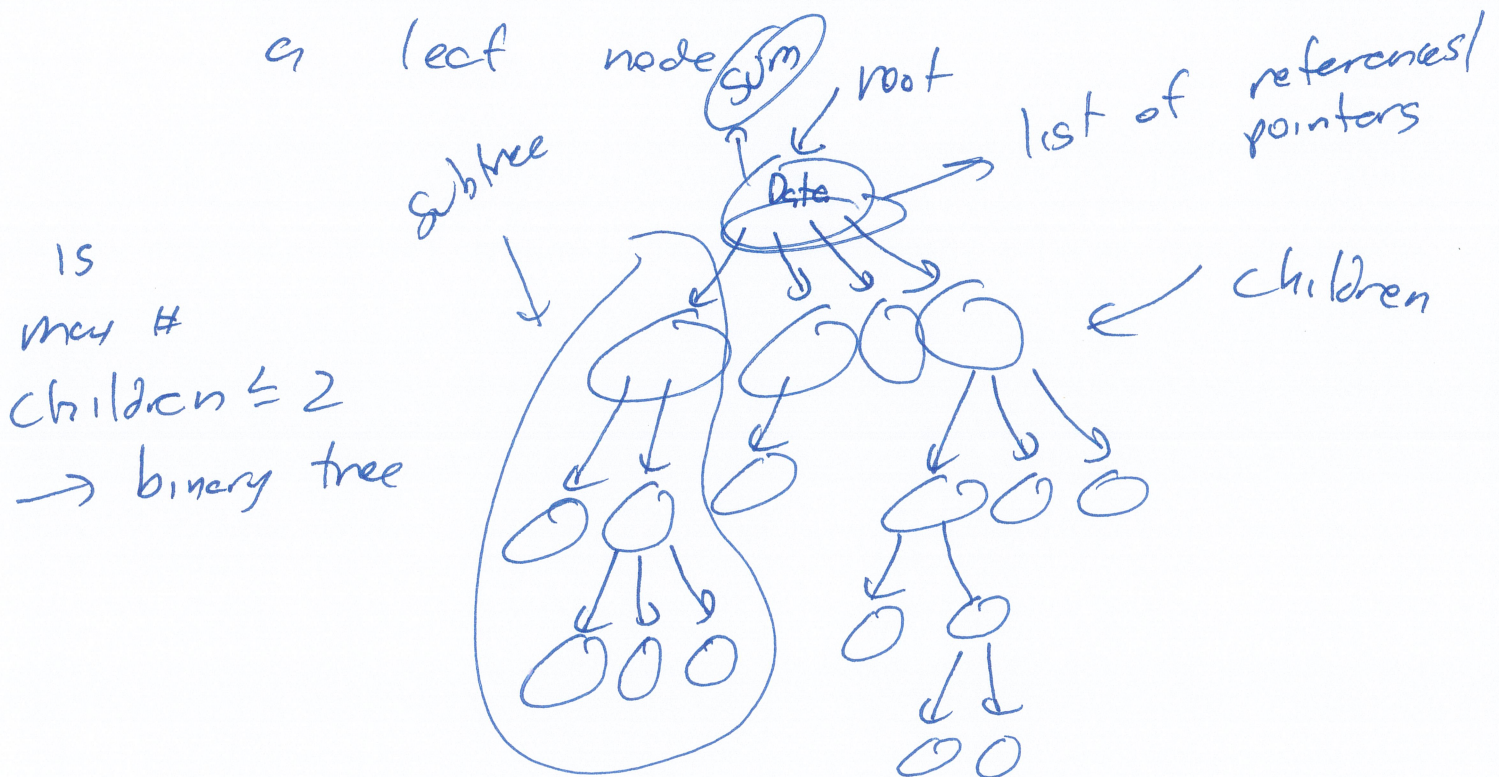


Trees!

Rooted tree has a designated node that is the root, and the root has "children", and those nodes can have children, etc. Any node w/o children is a leaf node.



Often times, we write recursive code:

- ① Solve the problem recursively for each child.
- ② Use those answers to solve the problem for the whole tree.

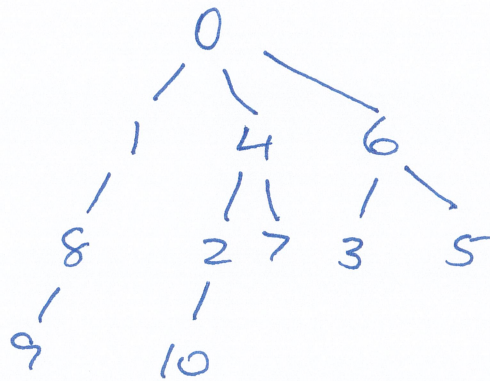
Other tree Strategy

1) Just store parent links

2) Process into going up the tree

Also when this suffices to solve the problem you can often times store the tree in an array

0	1	2	3	4	5	6	7	8	9	10
0	0	4	6	0	6	0	4	1	8	2



Strategy #3: BFS through a tree to avoid recursion overhead

Strategy #4: enqueue all leaf nodes into queue, solve problem for a node dequeue, then if doing so means the parent node can

enqueued (since all its children have been solved), enqueue it.

Family Fortune

$ans[i][j] = \max(ans[i][j], a[i] + a2[j])$

$k = 4$

