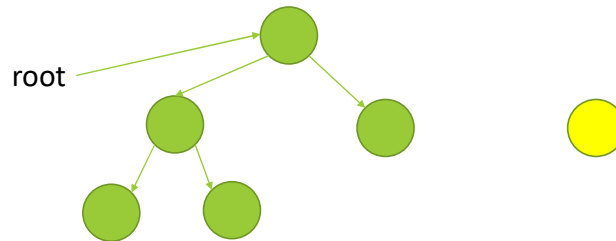## Review SW for Linked Lists and Trees

Write sorted Linked List example…
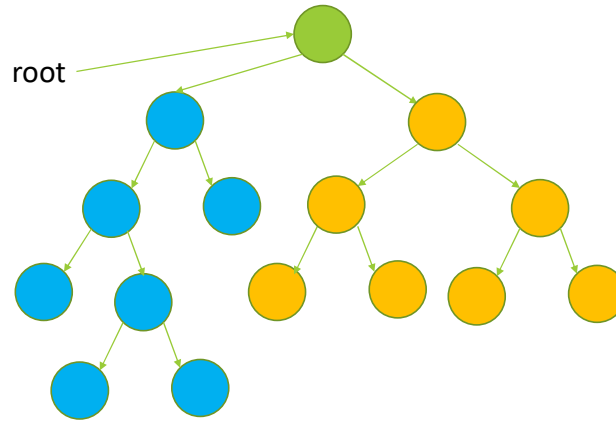
Tree

root

How do we add it? WHERE do we add it?
- Could be sorted order: do code in Eclipse with random numbers

Recursive Tree Operations
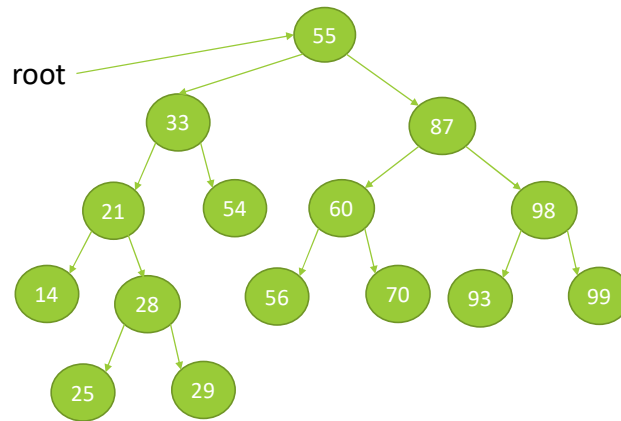
root

"Each Node looks like the root of its subtree"

Can we express an <u>operation on the tree</u> in terms of <u>sub-operations on sub-trees?</u>

Search, add up, find min, etc

Searching a Sorted Tree

```
                          55
                         /  \
            root -------/    \
                      33      87
                     /  \    /  \
                   21   54  60    98
                  /  \     / \   /  \
                14   28   56 70 93   99
                    /  \
                  25   29
```

Every left-child is "less than" its parent. Every right-child is "greater than" its parent.

How to search for **68**?

Search for a value in $\log_2(N)$ time

Worst case? Build tree with sorted values. What happens?

Non-binary Trees

NonBinaryTree.java
- Add print() method