CS 180 - AVL Trees part 2

Note Title 11/11/2010

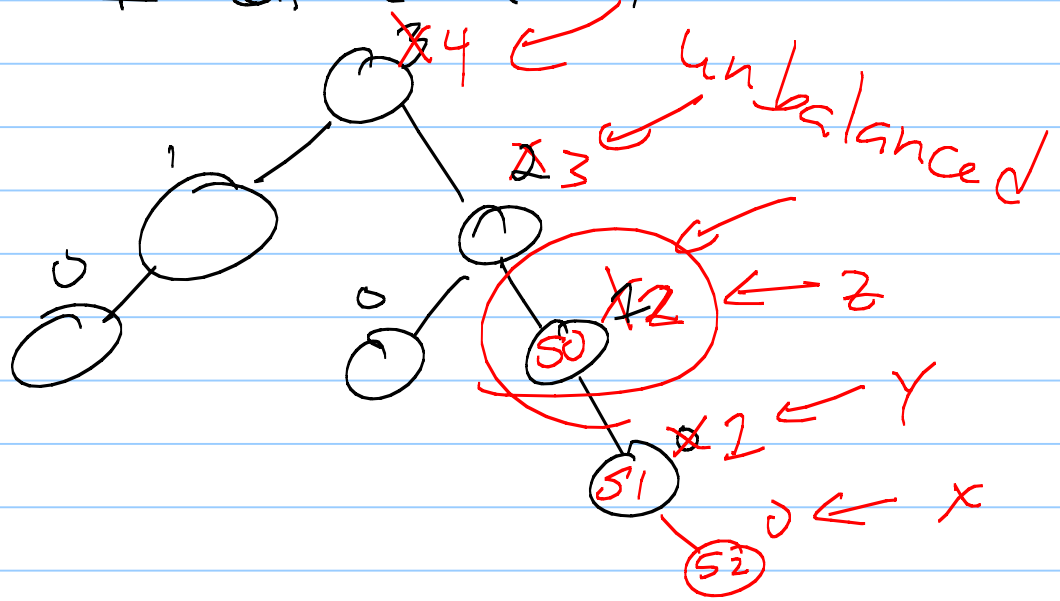
Announcements

- HW will go up today
  due Tuesday before Thanksgiving

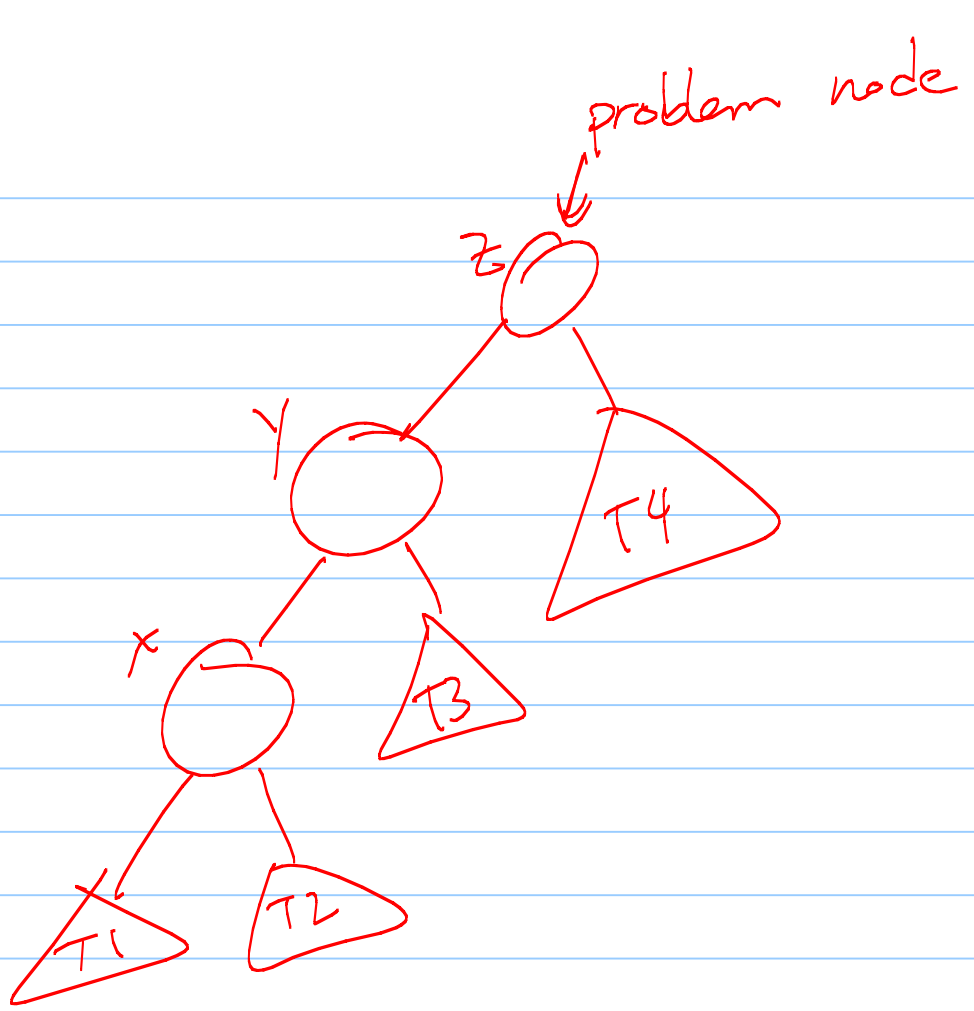
AVL Trees

Balance factor:

At each node, heights of children are within 1 of each other

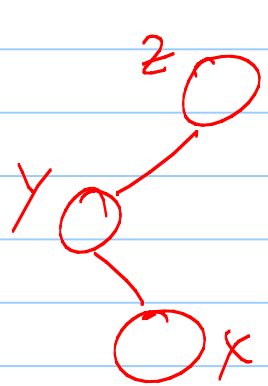


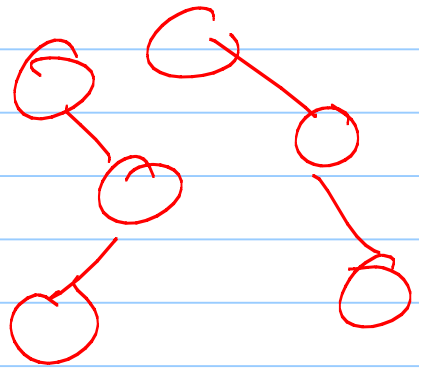
trouble; insert(52)



y = higher child

x = higher grandchild

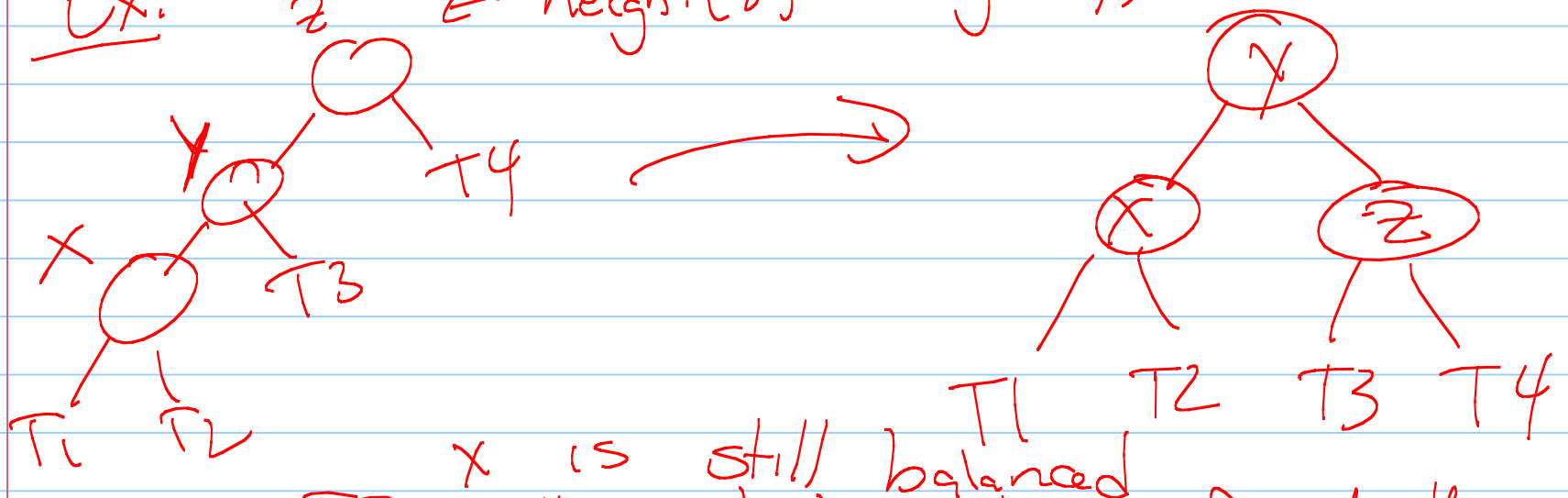




How did we rotate?

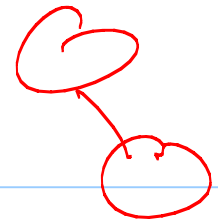
Make "middle" (in inorder traversal) the new root

Ex: ← height(z) = height(y) + 1 = height(x) + 2



x is still balanced

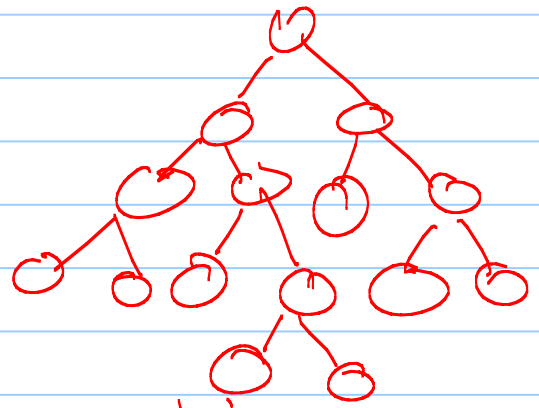
T3 & T4 must be with 1 of each other



operator ++ (iterator class)

find next node in an inorder traversal

it++?



if have right child
  go right then
  go left as much as possible
if no right child
  go up to parent
  if I was a left child, done
  else keep going up as long as you're right child then once more

- pivot: function that promotes a node to its parent's spot