CS2100

AVL trees:
remove

Recap

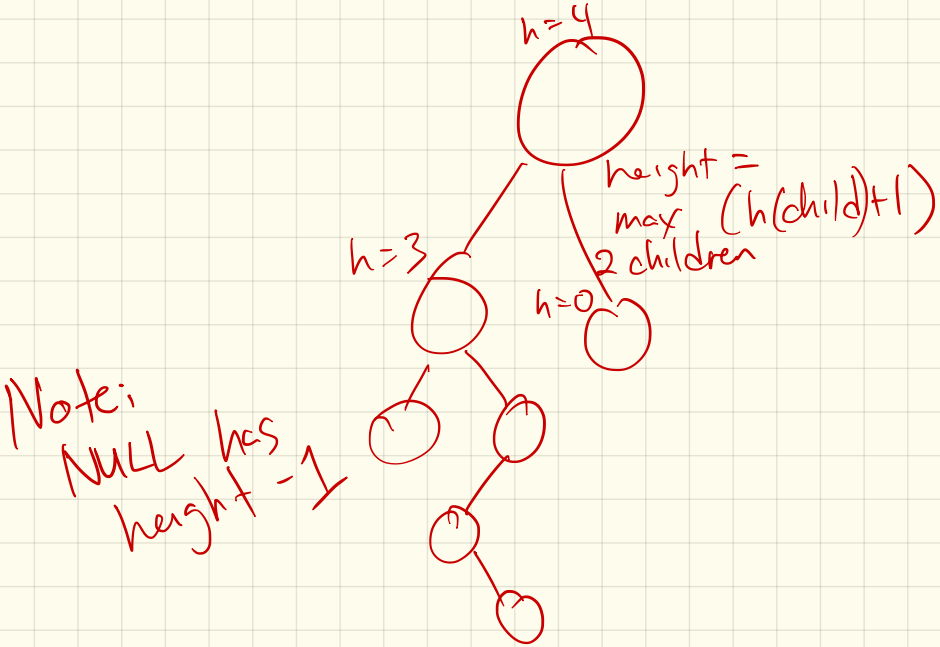
- HW due tonight
- Next HW: remove in AVL tree
- Midterm 2: in 2 weeks
- HW7 is graded

AVL trees:

Height balance property:

For every node v in T, the heights of v's children differ by at most 1.

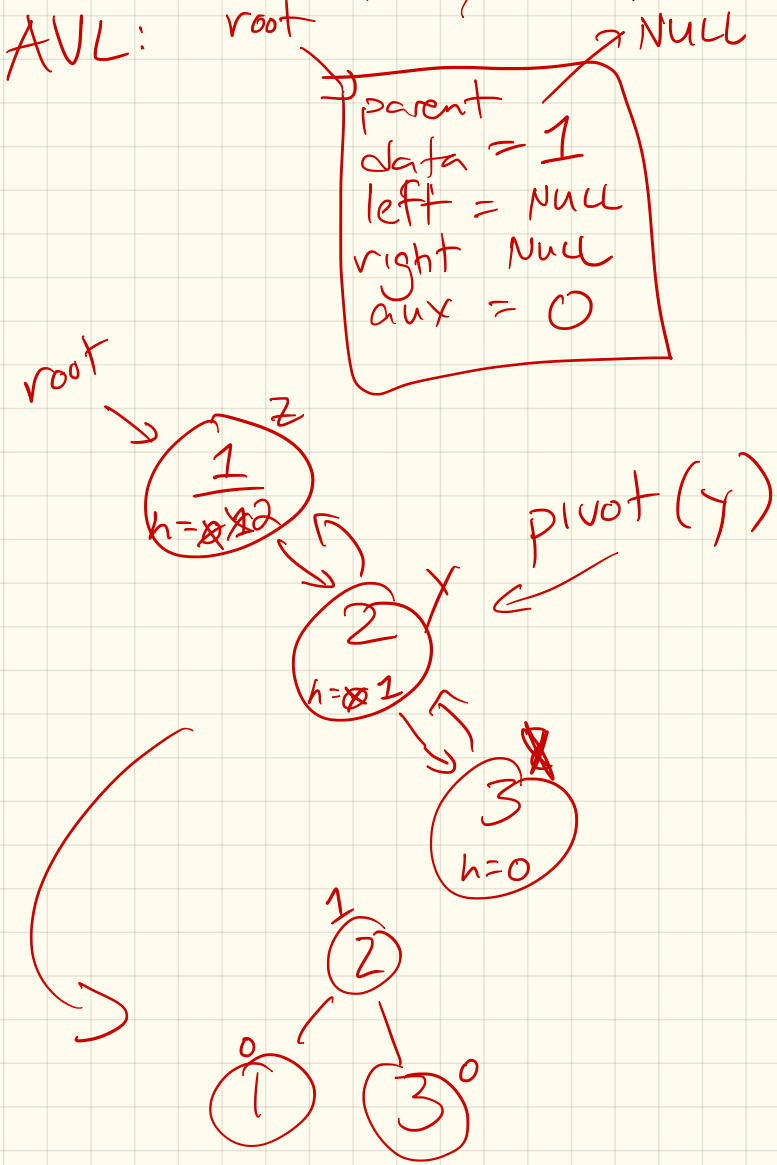
Key property

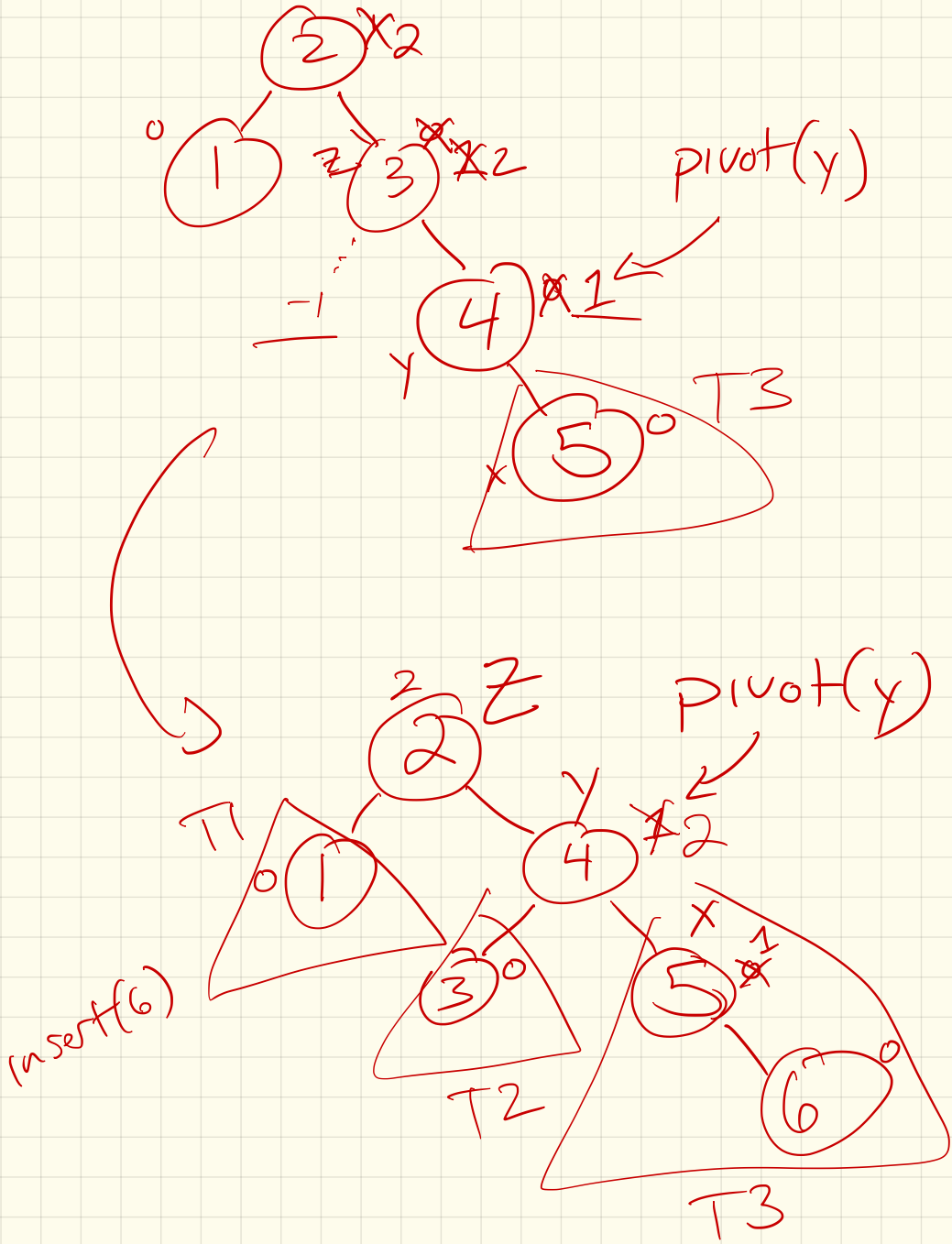


Bigger example:

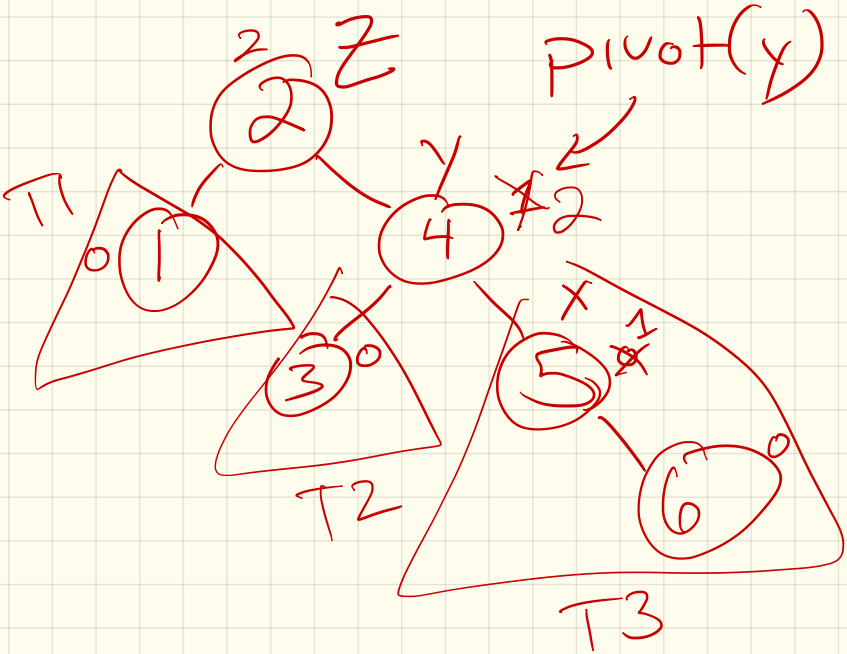
Insert: 1, 2, 3, 4, 5, 6, 7

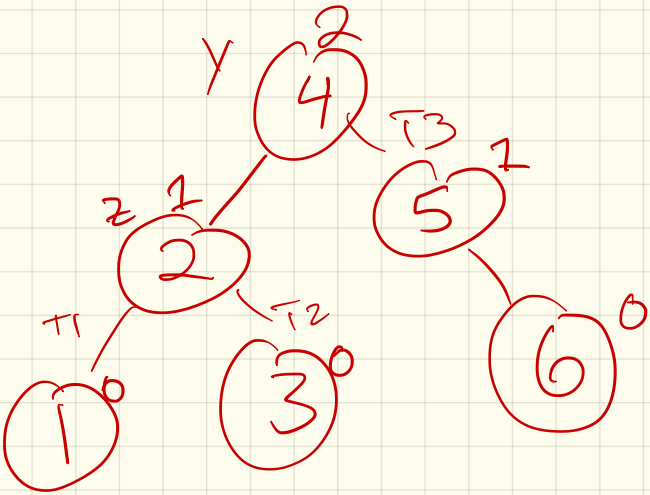
AVL:





pivot(y)
T3
pivot(y)
T1
T2
T3
insert(6)


pivot(y)
z
2
y
4
2
T1
0
1
x
3
0
T2
x
5
1
6
0
T3


y
2
4
T3
5
1
z
1
2
T1
T2
1
0
3
0
6
0

Next things:

- Code!
  - in BinaryTree.h
  - + in AVLtree.h
- Go over remove

Remove:

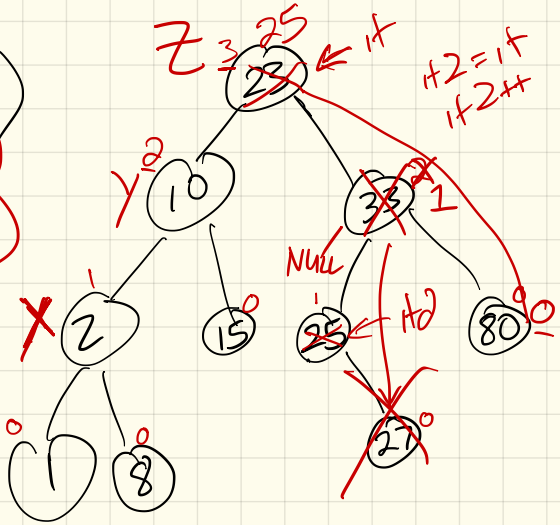
- Do binary search tree remove

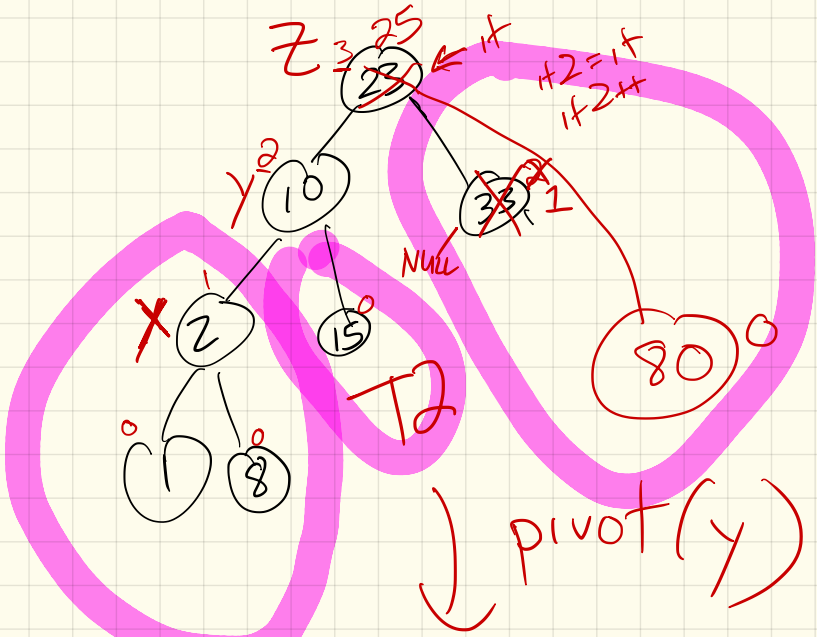
Then:

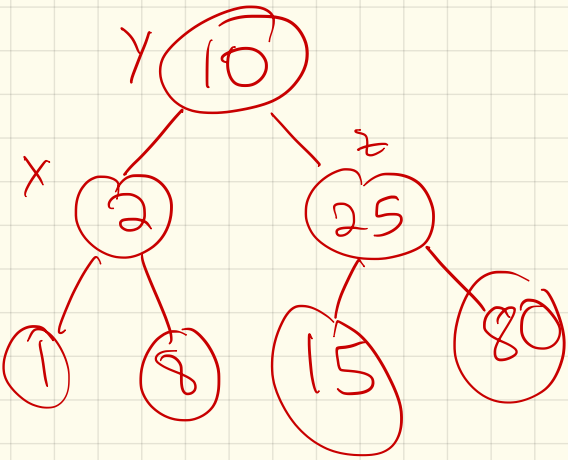
- Start from deleted node's position

travel up (until root)
reset heights
rebalance if needed

Ex: remove(23)
remove(27)
remove(33)




z
25
23
it
it2=it
it2++
y
2
10
33
1
NULL
X
1
2
15
0
80
0
1
0
8
T2
pivot(y)


y
10
X
2
z
25
1
8
15
80