Sean Carter
10/23/16

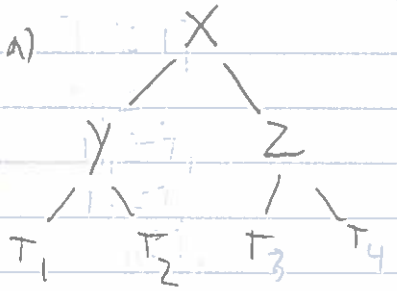
FOCS HW 15

1. all $T_1 \leq T_2$
   $T_1 \leq T_3$
   $T_2 \leq T_3$

2. all $T_1 \leq T_2 \leq T_3$

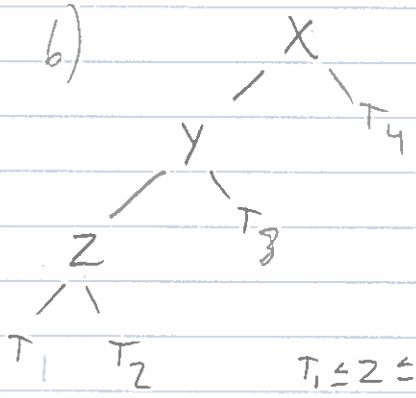
3. $T_1 \leq T_2 \leq T_3 \leq T_4$

4. a)



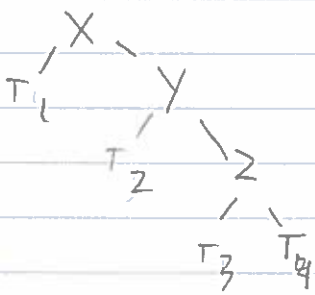
$T_1 \leq Y \leq T_2 \leq X \leq T_3 \leq Z \leq T_4$

b)



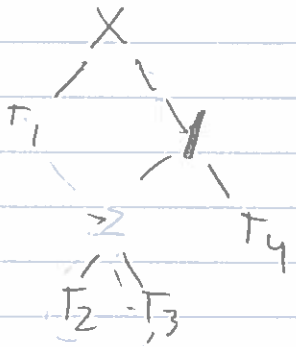
$T_1 \leq Z \leq T_2 \leq Y \leq T_3 \leq X \leq T_4$

c)



$T_1 \leq X \leq T_2 \leq Y \leq T_3 \leq Z \leq T_4$

d)

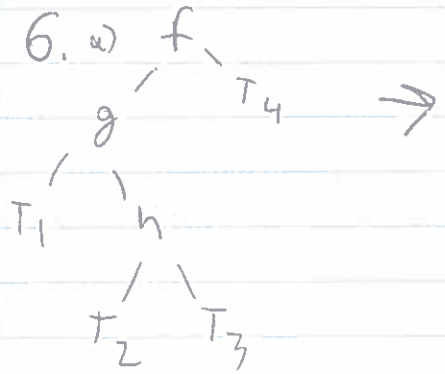


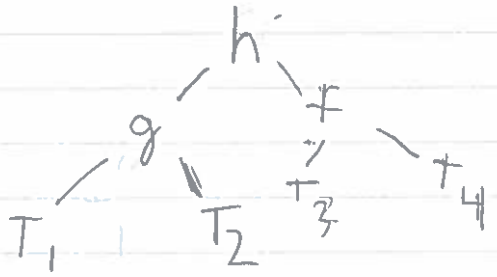
$T_1 \leq X \leq T_2 \leq Z \leq T_3 \leq Y \leq T_4$

5. It holds true for any and none of the others (a is ballenced, other 4 are unballenced. But ballenced has differences of at most 1 for each level, so it's still good.)

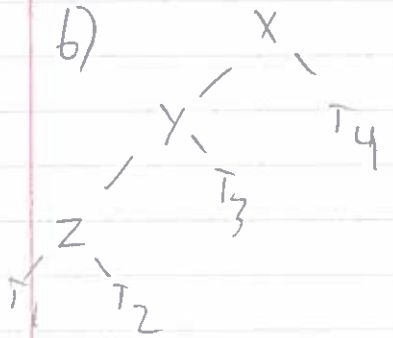
$T_1 \leq g \leq T_2 \leq h \leq T_3 \leq F \leq T_4$

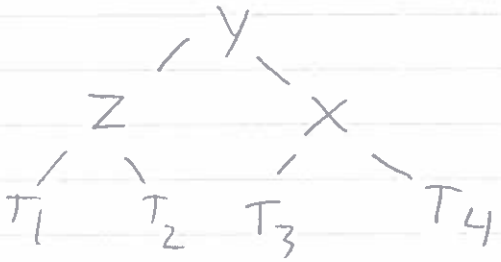
6. a)



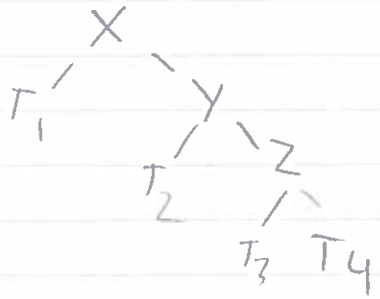


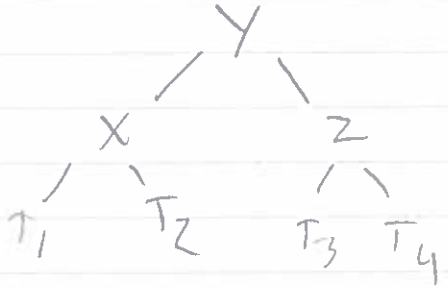
b)



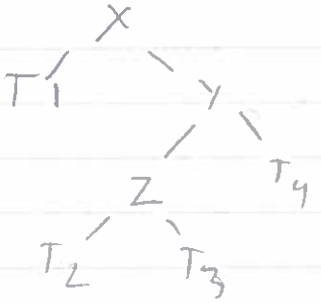


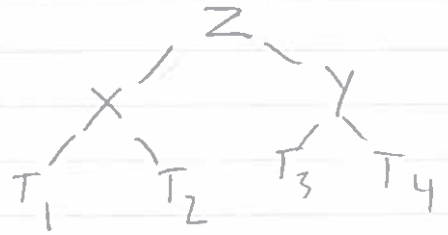
c)



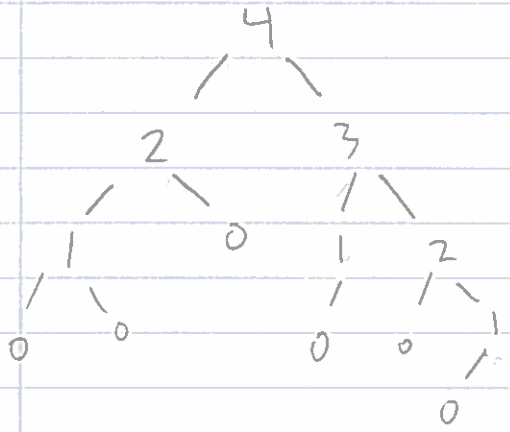


d)



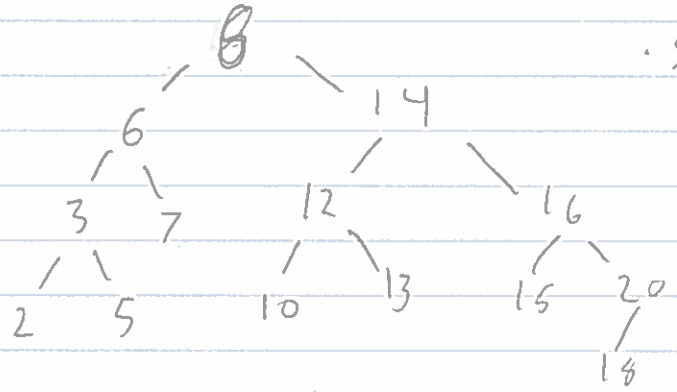


7. I will write depth of each node in its location



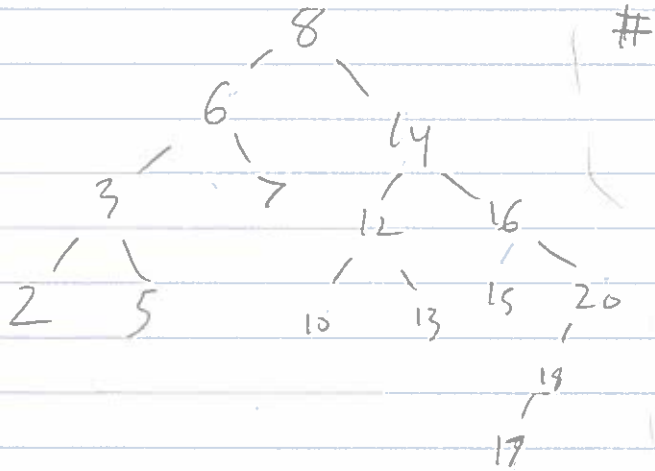
- For each node, we can see that there is no difference between left & right, where both left & right exist

8.

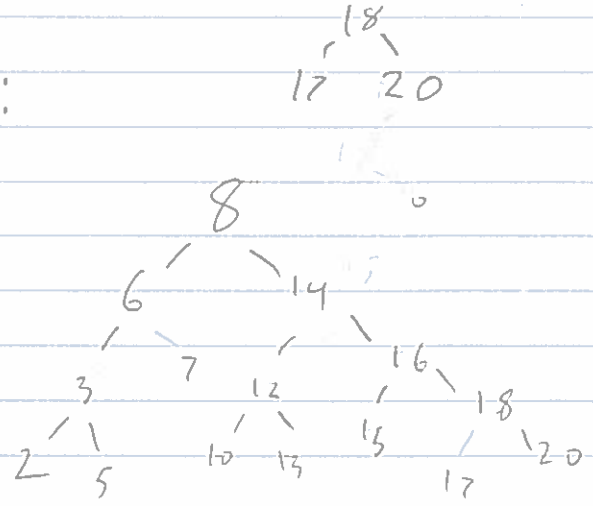


- Still almost-balanced

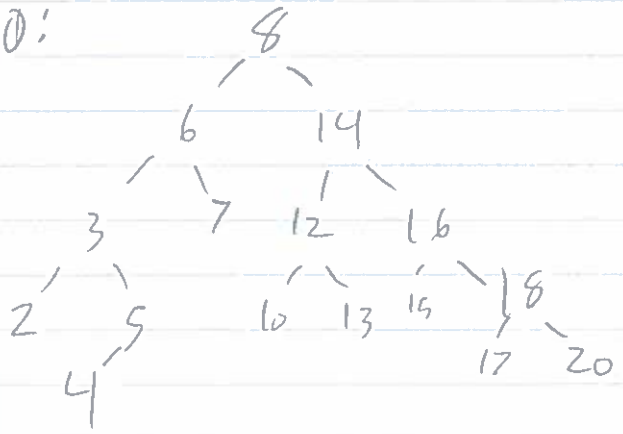
9.



#11:



10:


8
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14
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12
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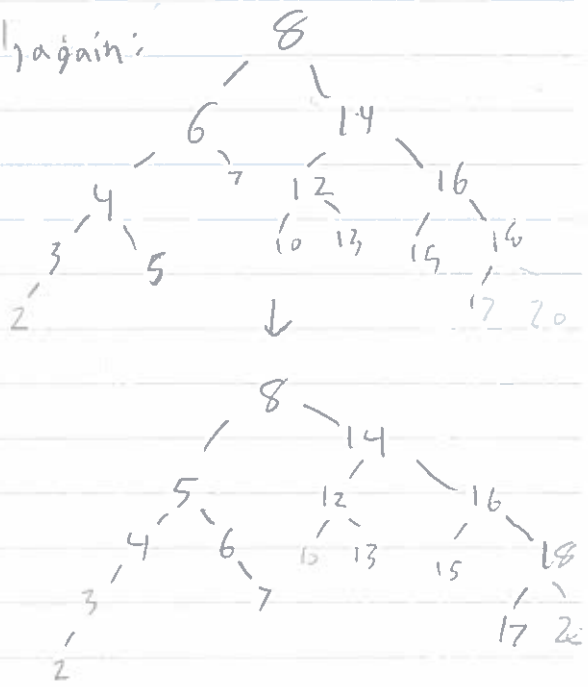
20

#11 again: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