

All of the  $\kappa$ 's should be uncountable and regular.

**Hint.** For problem 1, do a construction where it is easy to see that each node cannot be extended too far.

**Hint.** For problem 2, use problem 1 and some glue.

**Hint.** For 3. Don't be intimidated by the \*. Assume that for every node  $t$  there is an ordinal  $\alpha$  such that for all  $s > t$ ,  $\text{ht}(s) < \alpha$ . Get a contradiction.

4,5,6 and 8 are very do-able.