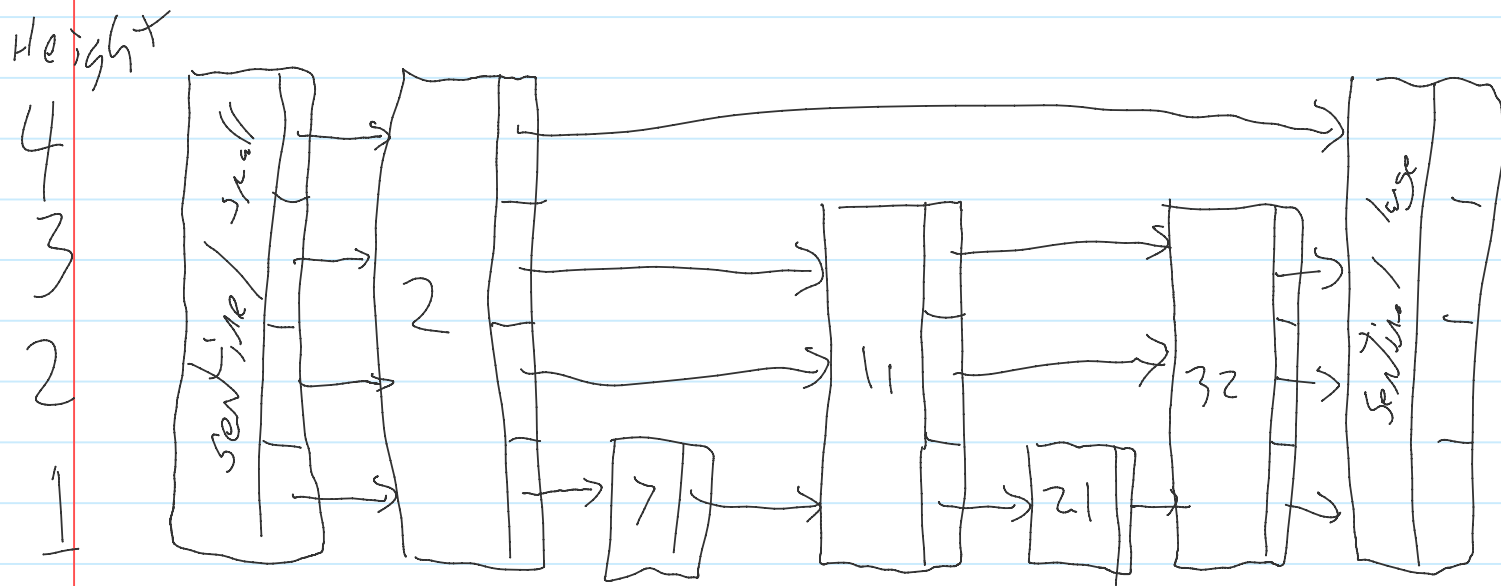


## 2/5 Skip List Revisited

Sunday, February 11, 2018 2:14 PM

### "Better" Storage Method

Instead of individual Node objects for each element at each height we store the element in one "large" node



### Deletion

Step 1 check that element is contained (optional)

Step 2 find the pointers for each height that point to the element using the skip list traversal method.

Step 3 overwrite each of those found pointers with the pointers of the "deleted" element

Example delete 11

Example delete 11

update 2's Pointer @ Height 3  
points to 32

update 2's Pointer @ Height 2  
points to 32

update 7's Pointer @ Height 1  
points to 21

Runtime average  $O(\lg n)$  (assuming height  $\geq \lg n$ )

Runtime worst case  $O(n)$