**Long Project 2: SkipList Implementation**

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Public method signatures for SkipList<T> class:

T: generic type class that is comparable

* **public SkipList();** *// main constructor; Initialize head, tail and all other helper variables*
* **public boolean add(T x);** *// add element to the skiplist. Return false if already present otherwise true*
* **Public T remove(T x);** *// return and remove x from skiplist. Return null if x is not present*
* **public T ceiling(T x);** *// find smallest element that is greater than or equal to x; return null if x is greater than maximum element in skiplist*
* **Public T floor(T x);** *// find largest element that is smaller than or equal to x; return null if x is less than minimum element in skiplist*
* **Public boolean contains(T x);** *// return true if element is present in skiplist; otherwise false*
* **Public T first();** *// return first element in the skiplist; null if skiplist is empty*
* **Public T last();** *// return last element in the skiplist; null if skiplist is empty*
* **Public T get(int n);** *// get nth element from skiplist 0 <= n <= size-1*
* **Public boolean isEmpty();** *// return true if skiplist is empty otherwise false*
* **Public Iterator<T> iterator();** *// return iterator that iterates elements of skiplist from 1st to last*
* **Public void rebuild();** *// rebuild skiplist into perfect possible skiplist*
* **Public int size();** *// #elements in skiplist*
* **Public String toString();** *// string representation of skiplist: [<size>] e1 e2 e3 e4 …*