Skip Lists

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Outline

Introduction

Definition

A skip list is a data structure that allows $O(n)$ search complexity as well as $O(\log n)$ insertion complexity within an ordered sequence of n elements. [1]

Complexity in Big-O Notation

Algorithm	Average	Worst Case
Space	$O(n)$	$O(n \log n)$ [2]
Search	$O(n \log n)$	$O(n)$ [2]
Insert	$O(\log n)$	$O(n)$
Delete	$O(\log n)$	$O(n)$

Implement

Data Structure Definition

- fda
- da
- jop

1. dsa
2. jll;
3. dkal

Implement

Search

Search

Implement

Insert

Implement

Delete

Complexity Analysis

References

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Skip lists: a probabilistic alternative to balanced trees.
Communications of the ACM, 33(6):668–676, 1990.

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Skip lists and probabilistic analysis of algorithms.
University of Waterloo Ph. D. Dissertation, 1993.

Thank you!