

Implementation and comparison of priority queue data structures

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Bachelor's thesis

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Chapter 1

Introduction

1.1 Definitions

"Introduction to Algorithms" [Cor+22]

Chapter 2

Integer Priority Queues

2.1 Van Emde Boas tree

"Preserving Order in a Forest in Less Than Logarithmic Time" [Emd75]

"Design and implementation of an efficient priority queue" [EKZ76]

2.2 X-fast trie

"Log-logarithmic worst-case range queries are possible in space $\Theta(N)$ " [Wil83]

2.3 Y-fast trie

"Log-logarithmic worst-case range queries are possible in space $\Theta(N)$ " [Wil83]

2.4 Fusion tree

"BLASTING Through the Information Theoretic Barrier with FUSION TREES" [FW90]

Chapter 3

General purpose Priority Queues

3.1 Weak heap

"Weak-heap sort" [Dut93]

3.2 Brodal queue

"Worst-case efficient priority queues" [Bro96]

Chapter 4

Implementation and benchmark

4.1 Implementation and benchmark

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