

Priority Queues II

CSE 373
Data Structures & Algorithms
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Today's Outline

- **Announcements**
 - Midterm #1, this Fri, Oct 19.
 - Assignment #3, due Thurs, Oct 25.
- **Today's Topics:**
 - **Priority Queues**
 - Binary Min Heap - buildheap
 - D-Heaps

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Facts about Binary Min Heaps

Observations:

- finding a child/parent index is a multiply/divide by two
- operations jump widely through the heap
- each percolate step looks at only two new nodes
- inserts are *at least* as common as deleteMins

Realities:

- division/multiplication by *powers* of two are equally fast
- looking at only two new pieces of data: bad for cache!
- with huge data sets, disk accesses dominate

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Operations on d -Heap

- Insert : runtime =

- deleteMin: runtime =

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