

Minimum-Weight Spanning Trees

Lecture outline

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Call the roll. Preliminary questions?

1 Priority queues (6.5)

- Abstract data structure, operations
- Implementations:
 - As an unsorted list
 - As a binary search tree
 - As a binary heap
 - As a binary search tree + auxiliary data structure
 - As a binary heap + auxiliary data structure
 - As a Fibonacci heap + auxiliary data structure

2 Minimum spanning trees (23)

- Definition, applications
- Main property: light edges across cuts are part of an MST
- General scheme of a greedy algorithm
- Kruskal algorithm, complexity
- Prim algorithm, complexity with binary heaps (+ auxiliary data structure) and with Fibonacci heaps (+ auxiliary data structure)