

INTRACTABILITY III

► *greedy independent set algorithm demo*

Lecture slides by Kevin Wayne

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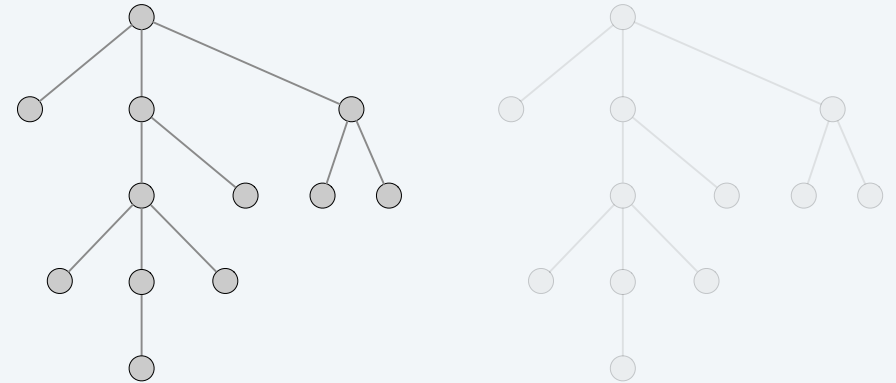
<http://www.cs.princeton.edu/~wayne/kleinberg-tardos>

Last updated on 5/2/18 9:35 PM

Greedy independent set algorithm (for trees)

Repeatedly pick a leaf node v .

- Let (u, v) denote the incident edge.
- Add both v to the independent set.
- Delete u and v (and all incident edges).

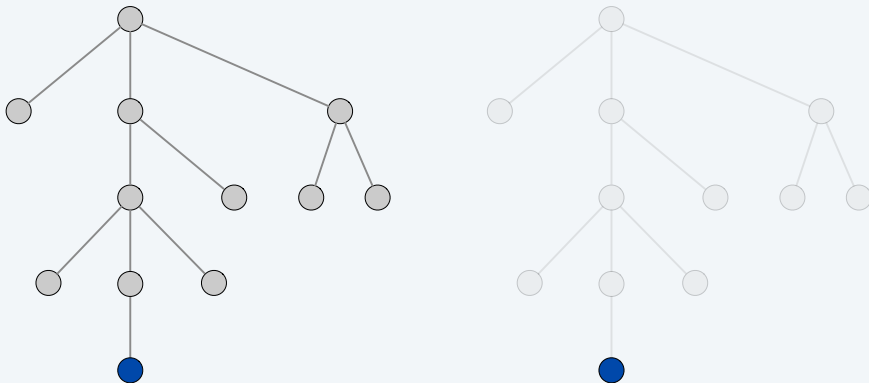


2

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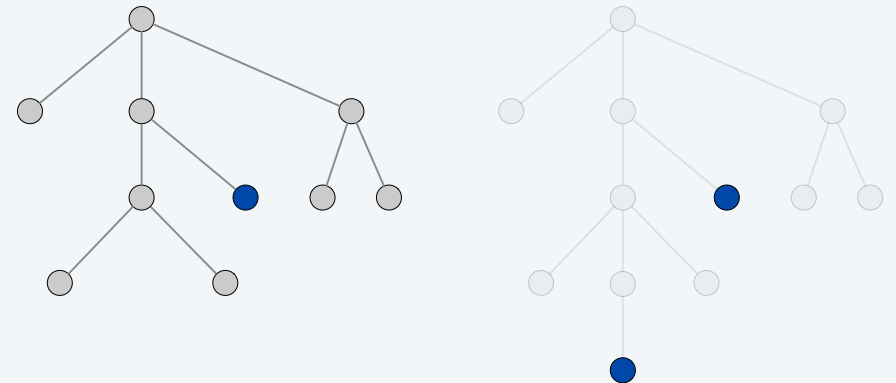


3

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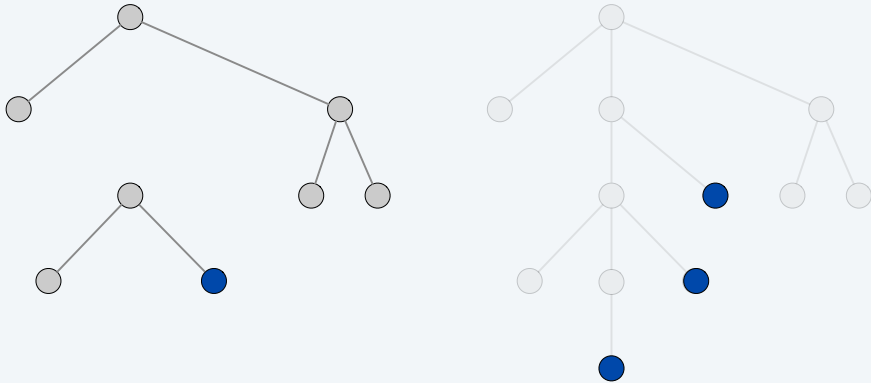


4

Greedy independent set algorithm (for trees)

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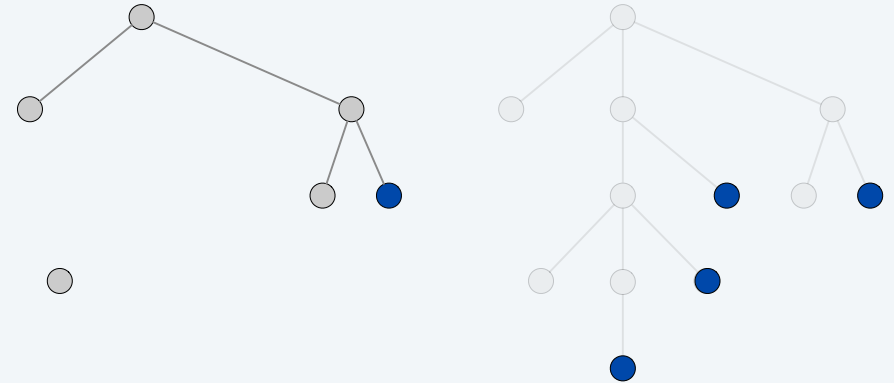


5

Greedy independent set algorithm (for trees)

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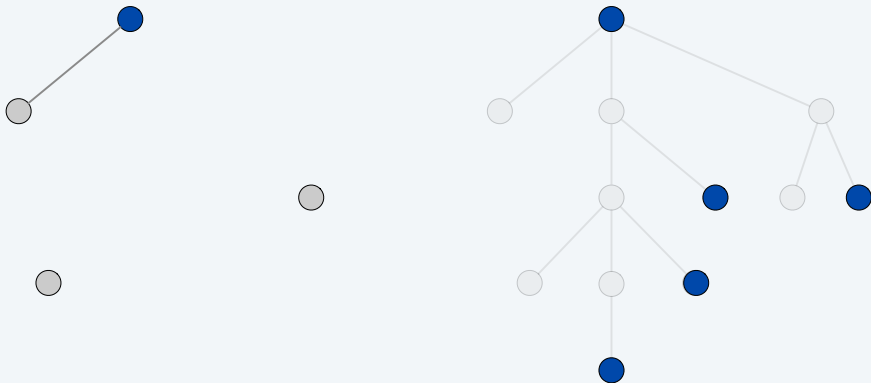


6

Greedy independent set algorithm (for trees)

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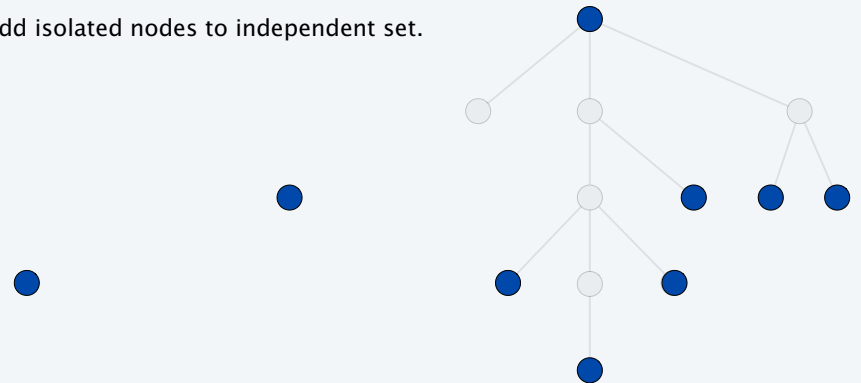
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Greedy independent set algorithm (for trees)

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Add isolated nodes to independent set.

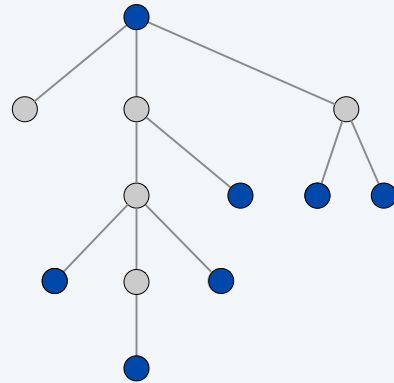


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Greedy independent set algorithm (for trees)

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max-cardinality independent set