Slide 1

INTRACTABILITY III

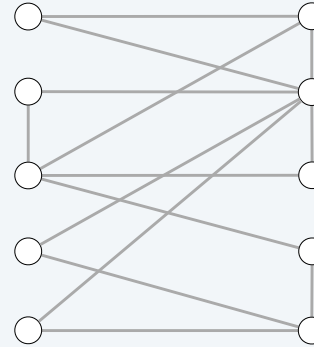▸ *greedy vertex cover algorithm demo*

Last updated on 5/2/18 5:46 AM

Slide 2

Greedy vertex cover algorithm

Repeatedly pick an arbitrary edge (u, v).

- Add (u, v) to matching M.
- Add both u and v to vertex cover S.
- Delete all edges incident to either u or v.
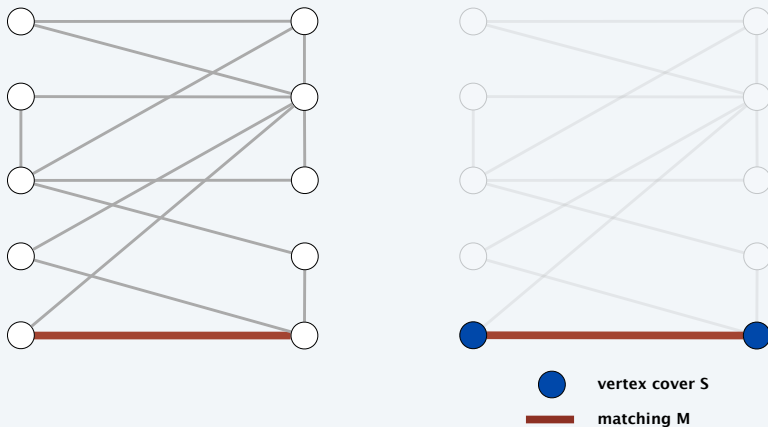

2

Slide 3

Greedy vertex cover algorithm

Repeatedly pick an arbitrary edge (u, v).

- Add (u, v) to matching M.
- Add both u and v to vertex cover S.
- Delete all edges incident to either u or v.

● vertex cover S
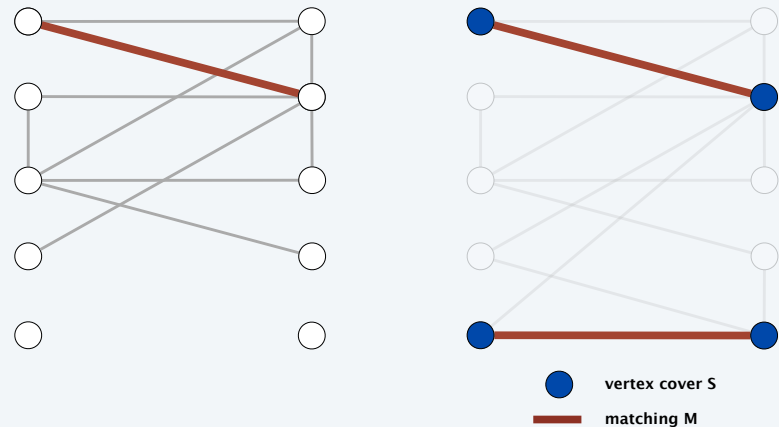━━ matching M

3

Slide 4

Greedy vertex cover algorithm

Repeatedly pick an arbitrary edge (u, v).

- Add (u, v) to matching M.
- Add both u and v to vertex cover S.
- Delete all edges incident to either u or v.
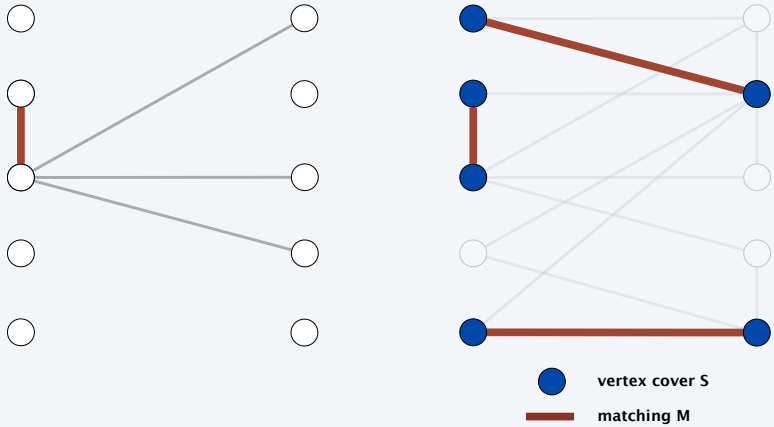

● vertex cover S
━━ matching M

4

Greedy vertex cover algorithm

Repeatedly pick an arbitrary edge (u, v).

- Add (u, v) to matching M.
- Add both u and v to vertex cover S.
- Delete all edges incident to either u or v.

● vertex cover S

▬ matching M

Greedy vertex cover algorithm

Repeatedly pick an arbitrary edge (u, v).
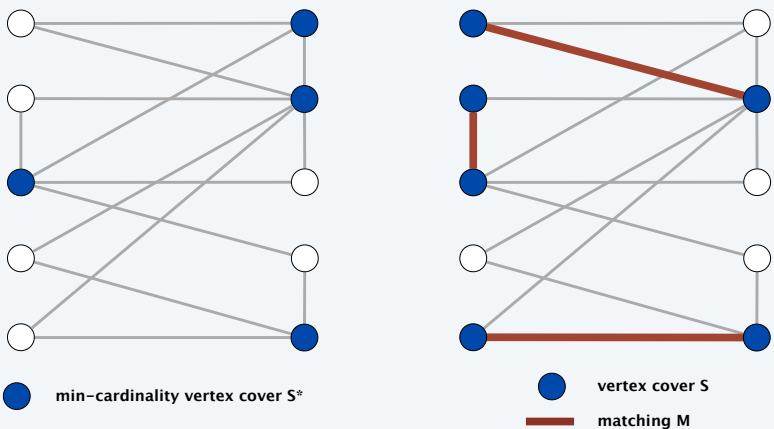
- Add (u, v) to matching M.
- Add both u and v to vertex cover S.
- Delete all edges incident to either u or v.

● vertex cover S

▬ matching M

Greedy vertex cover algorithm

Greedy algorithm is not optimal.

● min-cardinality vertex cover S*

● vertex cover S

▬ matching M