

CS-103 Announcements

- **This week:**
 - **Six Degrees Ch 5 (Searching networks)**
 - **Web 101 Ch 5.1-5.2 (HTML image maps)**

- **Coming up:**
 - **Midterm in class Fri Oct 27**
 - **Will include material from Mon Oct 23**
 - **No HTML**

HW6: Due 9pm Thurs 10/19

1. If you don't already have a link to another blog in the sidebar of your blog, add at least one
2. Get at least one classmate to add a link from his/her sidebar to your blog
3. Write a blog post thanking that classmate for linking to your blog
4. Click on the link that goes from your classmate's sidebar to your blog. (You do not need to write or print anything about this part; your click will feed into your Google Analytics database for later.)

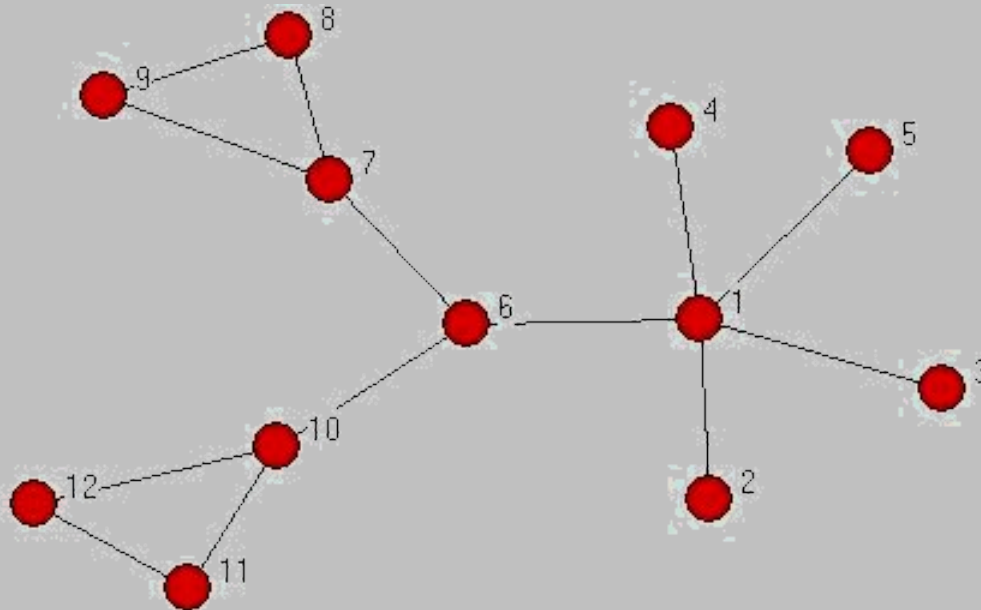
Assessing Credibility (on the Web)

**We will approach through
“Network Centrality”**

**Also key calculation behind general
Internet search engines**

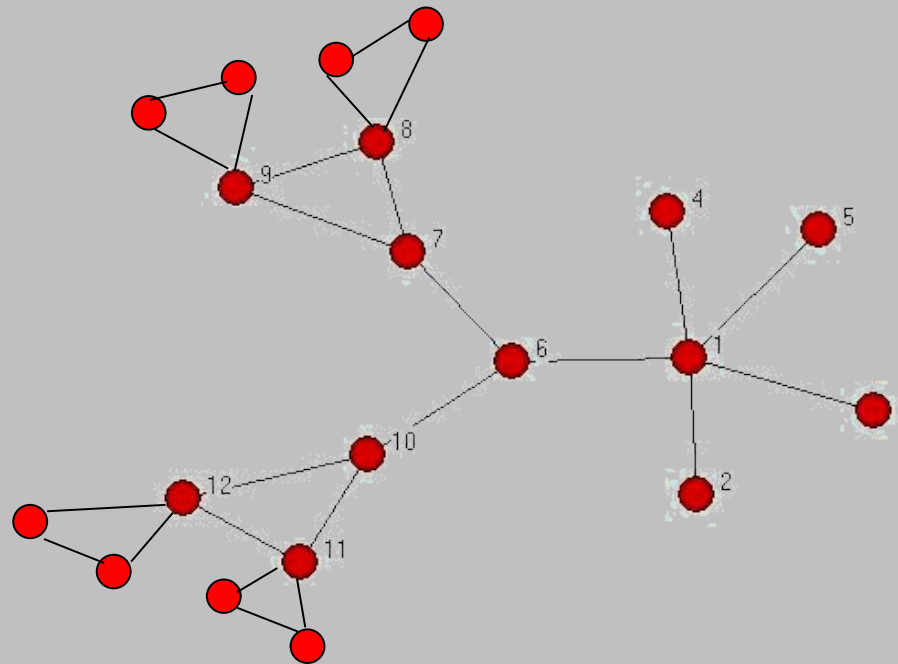
Centrality: No single clear definition

- Which node is most central in this network?



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Local calculations of centrality: For a node x ,

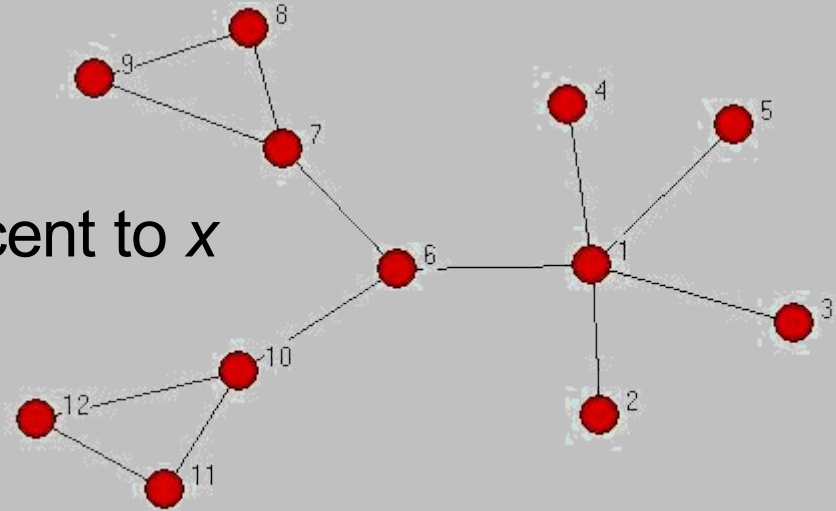
- Degree centrality

- Degree(x)

- = number of nodes adjacent to x

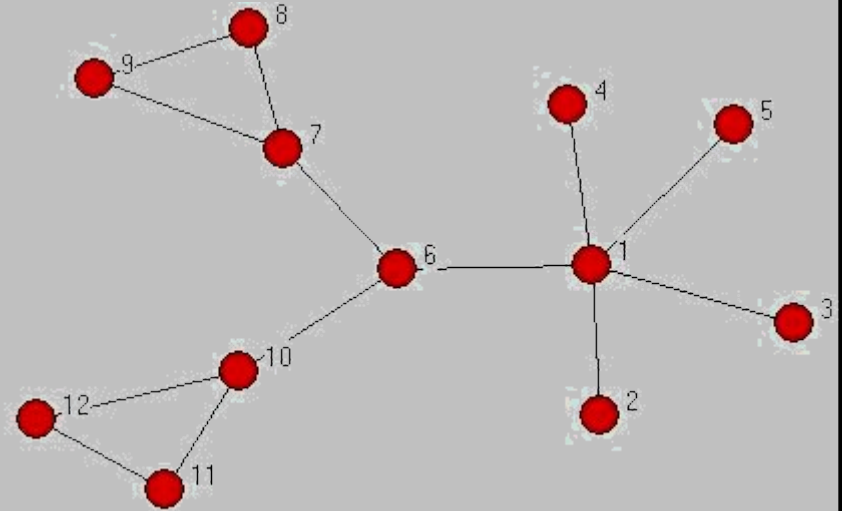
- *Indegree*

- *Outdegree*



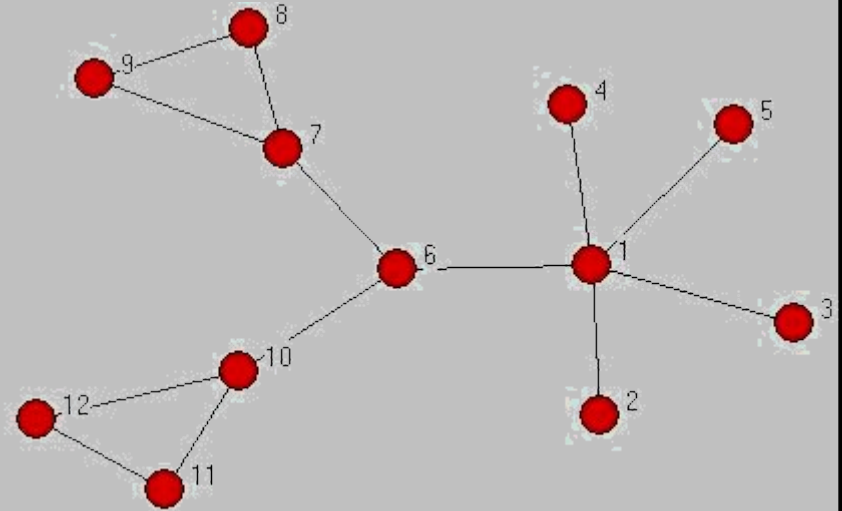
Network-wide centrality:

For a node x ,



- Betweenness centrality (6)
 - how often x lies on shortest paths

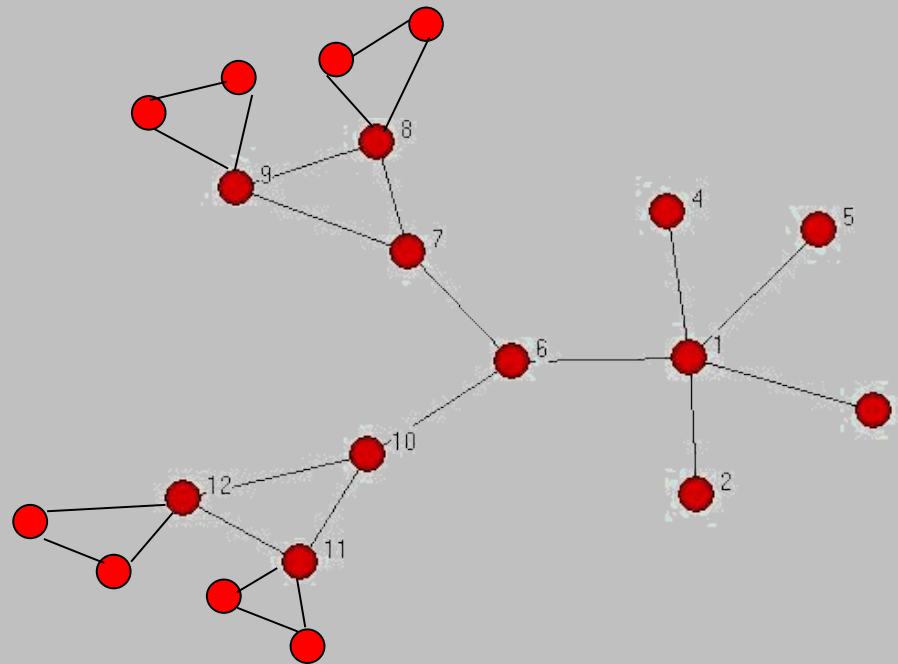
Network-wide centrality: For a node x ,



- Eigenvector centrality (1,6)
 - compounded version of degree centrality

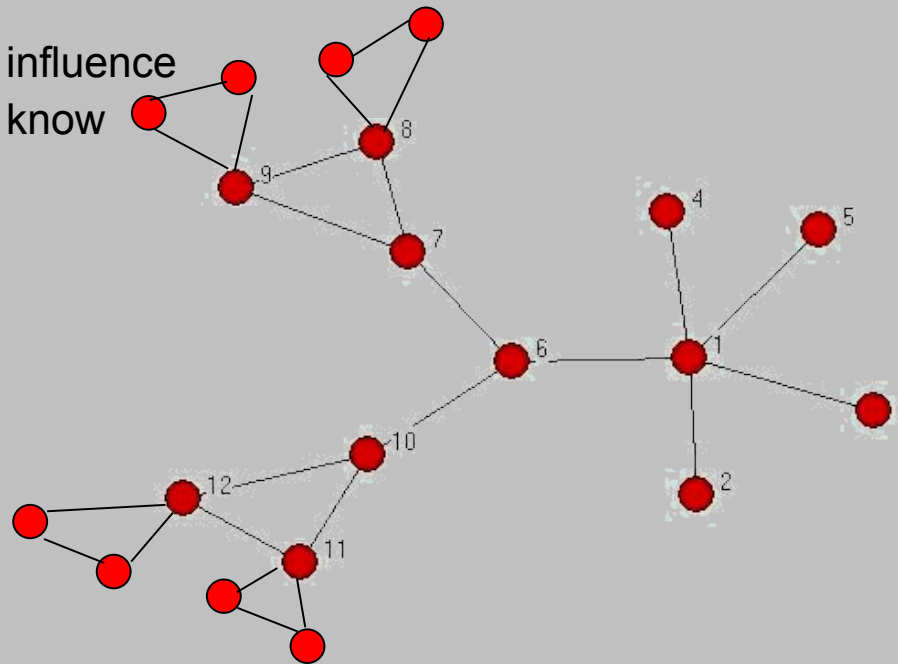
Centrality: No single clear definition

- Eigenvector centrality (6)
 - compounded version of degree centrality



Each aspect of centrality relates to different kind of influence

- **Degree**
 - most likely to influence and be influenced directly
- **Betweenness**
 - most likely to broker and synthesize diverse info
- **Eigenvector**
 - most likely to influence and be in the know



Network Search

2:20 p.m. 65°F/18°C  Weather



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University Headlines

October 17, 2006

Exploring the Facebook frontier

At UNI, testing theories of social connectivity

Jessica Ullian

During his freshman year at BU, Soren Michael Hessler (UNI'08) decided to test the theory that all people are connected through no more than five other people — six degrees of separation — via the **Facebook**, which was then a new communications medium for college students. He selected 10 people at random, each at a different college or university, and sent a message to all his friends asking them to pass it on to one other person. The idea, he says, was to find out how many connections it took to reach each target.



Soren Michael Hessler (UNI'08) sent out more than 200 messages in an attempt to reach 10 randomly selected Facebook users.

Hessler successfully reached only one target — a freshman at George Washington University — but the resulting paper, "An Experimental Study of the Small World Problem on thefacebook.com," won the University Professors Program's Dean Edmonds Prize for the best seminar research paper. *BU Today* talked with Hessler about the study, his results, and what he

News Releases

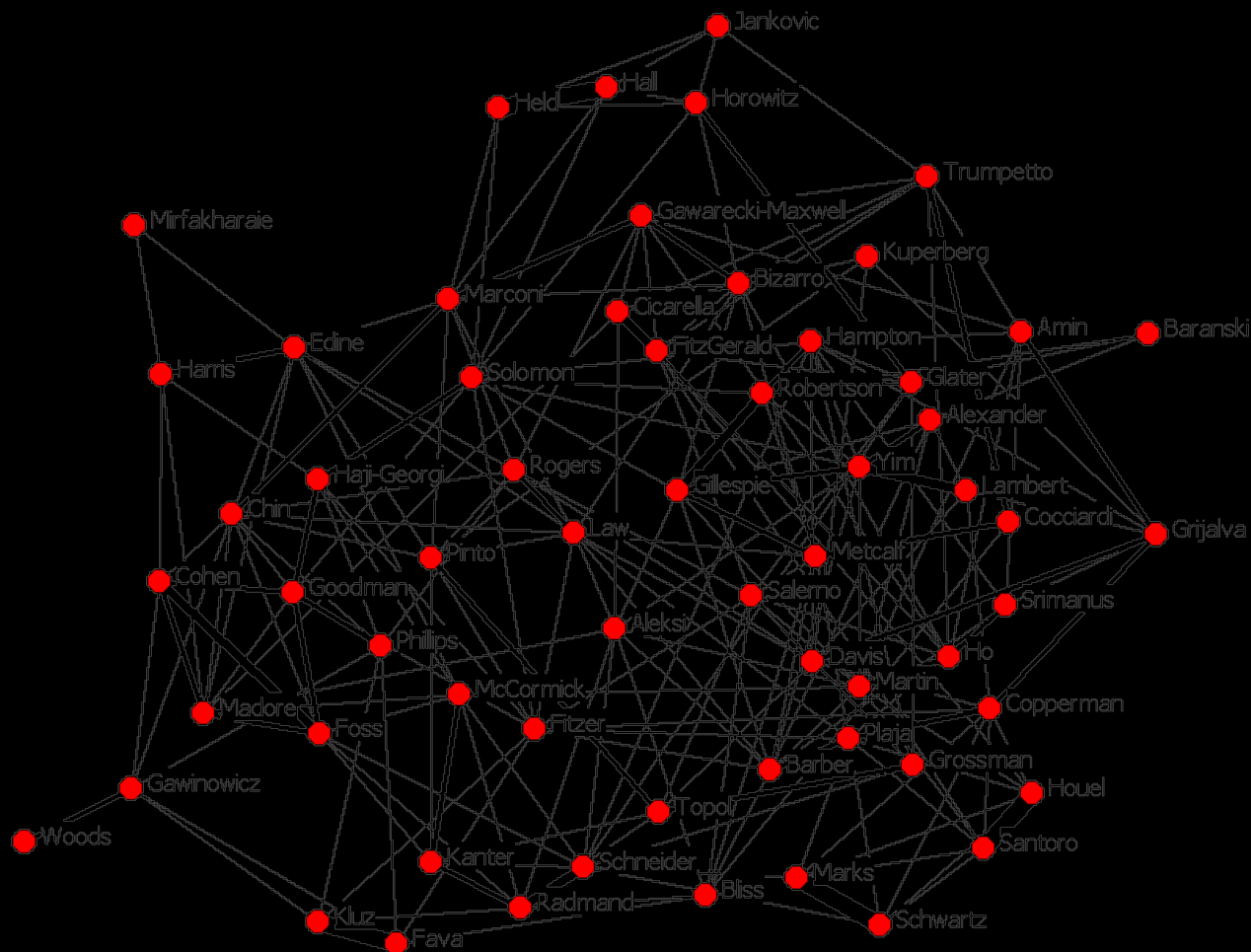
- 10.17.06 The Howard Gotlieb Archival Research Center at Boston University Presents a Commemorative Lecture and Exhibition Opening Honoring Its Founder
- 10.17.06 Boston University Biologists Discover Amphibian Eggs Defend Themselves Against Water Molds
- 10.16.06 Boston University Biomedical Engineers Win Major Grant for Pursuit of the "\$1,000 Genome"

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What's Up BU?

- 10.18 Mark St. Amant reads from his work *Just Kick It*
- 10.18 *Much Ado About Nothing* by William Shakespeare
- 10.18 *Knit Wits*
- 10.18 Audition for Marlowe's *Edward the Second*

Knowing a short path exists doesn't mean you can find it



How can we find shortest path?

