Lecture 10

CSE 331

Sep 19, 2018

Mini Project choice due MONDAY

CSE 331 Mini project choices

Fall 2018

Please check the table below before submitting your mini project team composition to make sure your case study is not being used by another group. Case studies are assigned on a first come first serve basis.

note ☆

0 views

Actions

Clarifications on mini project

Two comments as you finalize your mini project choices:

- You are responsible for forming a group of size EXACTLY 3. I will not be forming groups from students who could not find a group at the end. **If you have not formed a group by Monday, then you get a zero on the mini project.**
- Once you submit a case study and it is not flagged as not having a conflict, your choice is considered to be final.
  - I'm open to considering requests for change but you need a good reason and this has to be done by email. I.e. do not fill in the form again-- if you do, I will simply delete your later choices.

mini_project

edit · good note | 0

Updated Just now by Atri Rudra

Some reminders/clarifications

note ☆ stop following 123 views

Some thoughts on Homeworks

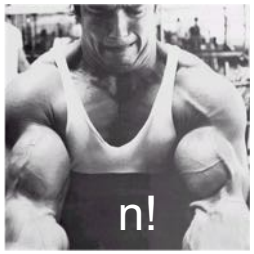
I have mentioned the following at some point to some of you and I figured that I should state it on piazza so that y'all are aware of these. I'll keep this post pinned for a while.

- **Start early**
  - While this would depend on your schedule but you should start working on the new HW on Friday itself:
    - For the same amount of time spent on the HW, it is better to distribute it over multiple days instead of e.g. spending a large chunk of time on Th
  - Try and make sure you have worked on part (a) of both Q2 and Q3 ideally over the weekend, which will give you more time to get feedback from us on your solutions.
  - Try and use up the Friday and Monday OHs, which are sparsely attended so you can get more dedicated time on those days.
- **Only what you submit on Autolab by the deadline will be graded-- NO EXCEPTIONS (e.g. submissions by email will not be accepted)**
  - Make sure you submit your HWs well before the deadline just to make sure there are no rude shocks at the end:
    - If your file size is >3MB then Autolab will not accept it.
      - If you typeset your solutions, this will not be an issue.
      - If you re taking pictures of your handwritten solution then it is likely you'll run into space issue. In that case you will need to compress your file. See @135 for one option.
    - Also make sure you preview your submitted PDF to make sure Autolab can display it. If Autolab cannot display it, we cannot grade it.
  - Y'all spend a lot of time on your homeworks, so make sure you do not waste that effort by messing up the last submission

Puzzle

Prove that **any** algorithm for the SMP takes $\Omega(n^2)$ time

Main Steps in Algorithm Design



Problem Statement

Problem Definition

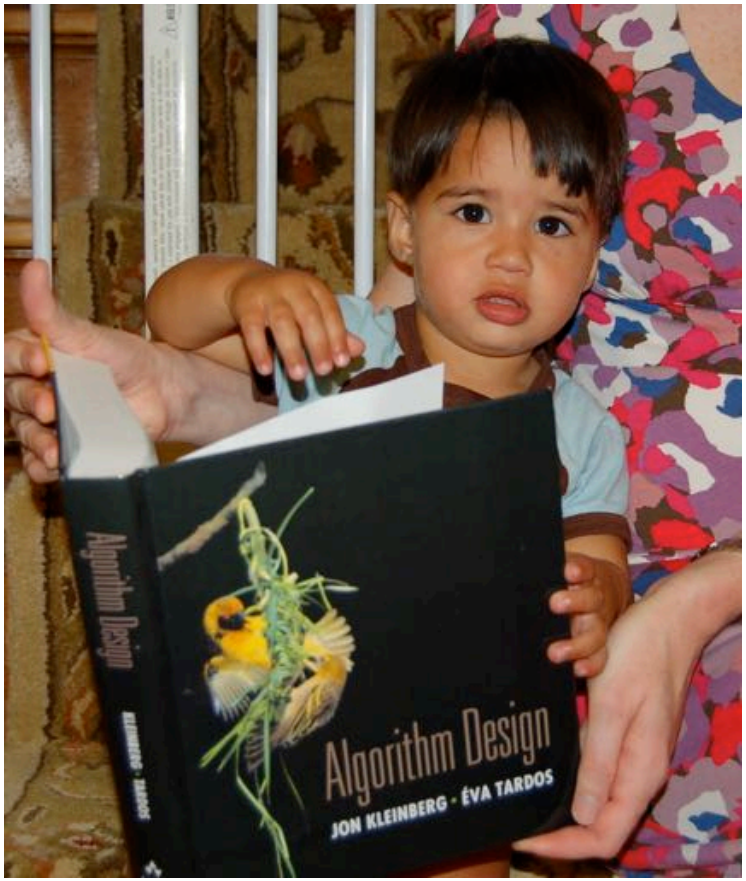
Algorithm

"Implementation"

Analysis

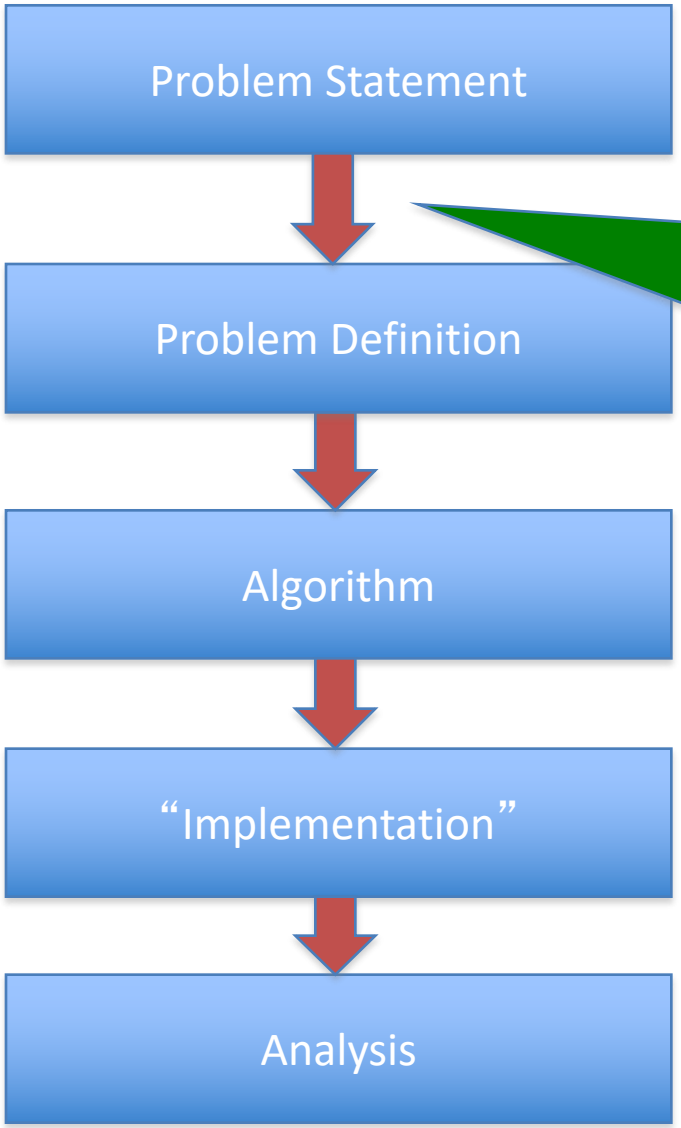
Correctness Analysis

Reading Assignments



Sec 1.1 and Chap. 2 in [KT]

Up Next….



A generic tool to abstract out problems

Graphs

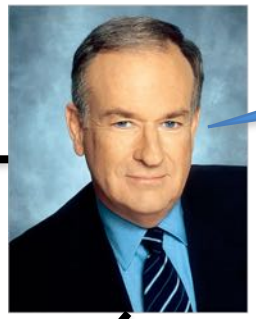
Representation of relation … airs of entities/elements

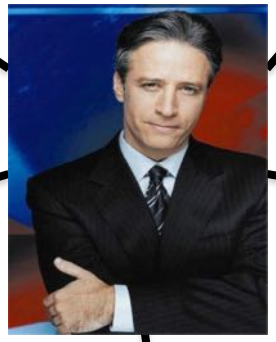
Edge

Vertex/Node

Entities: News hosts

Relationship: Mention in other's program

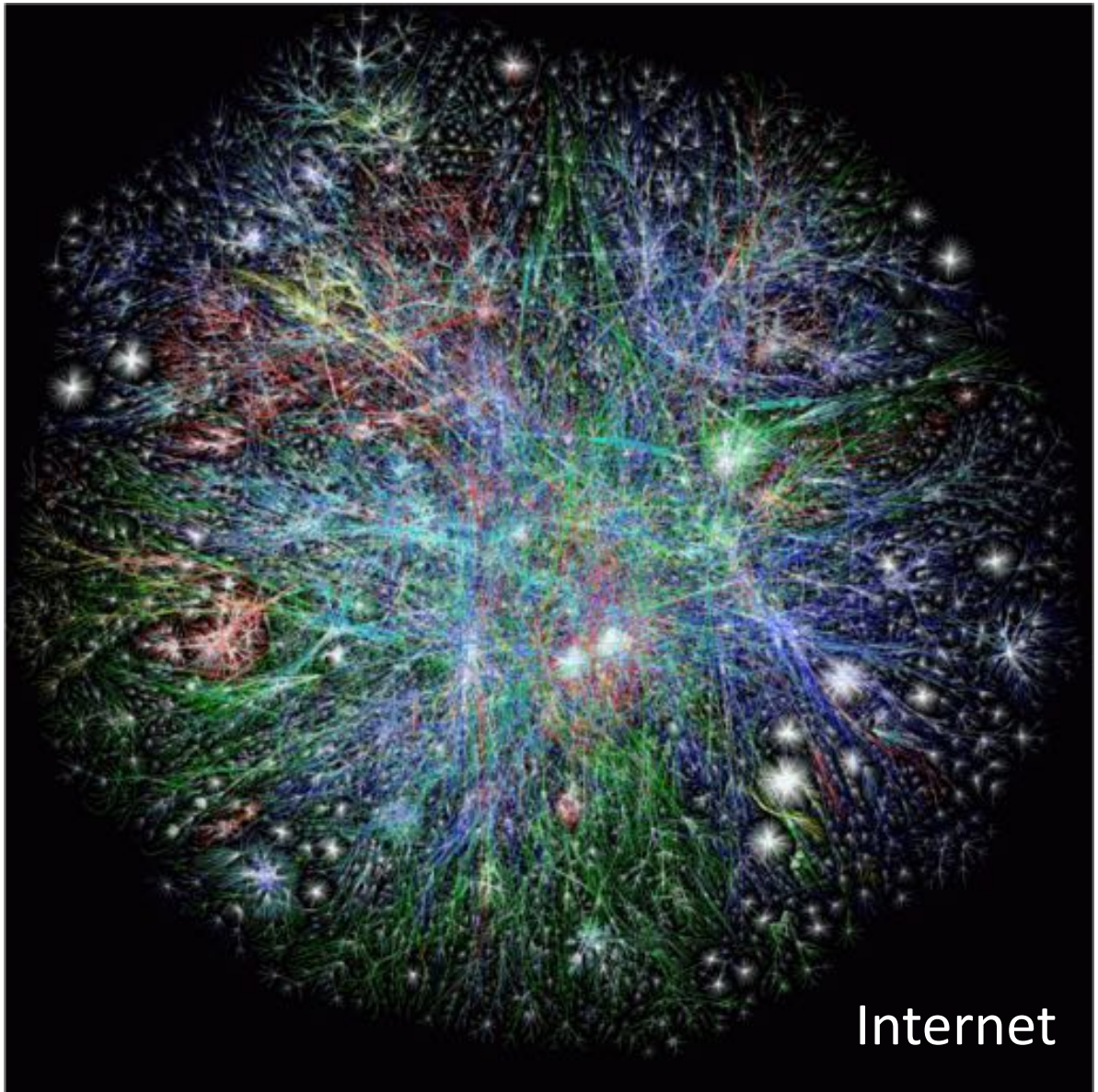




Graphs are omnipresent

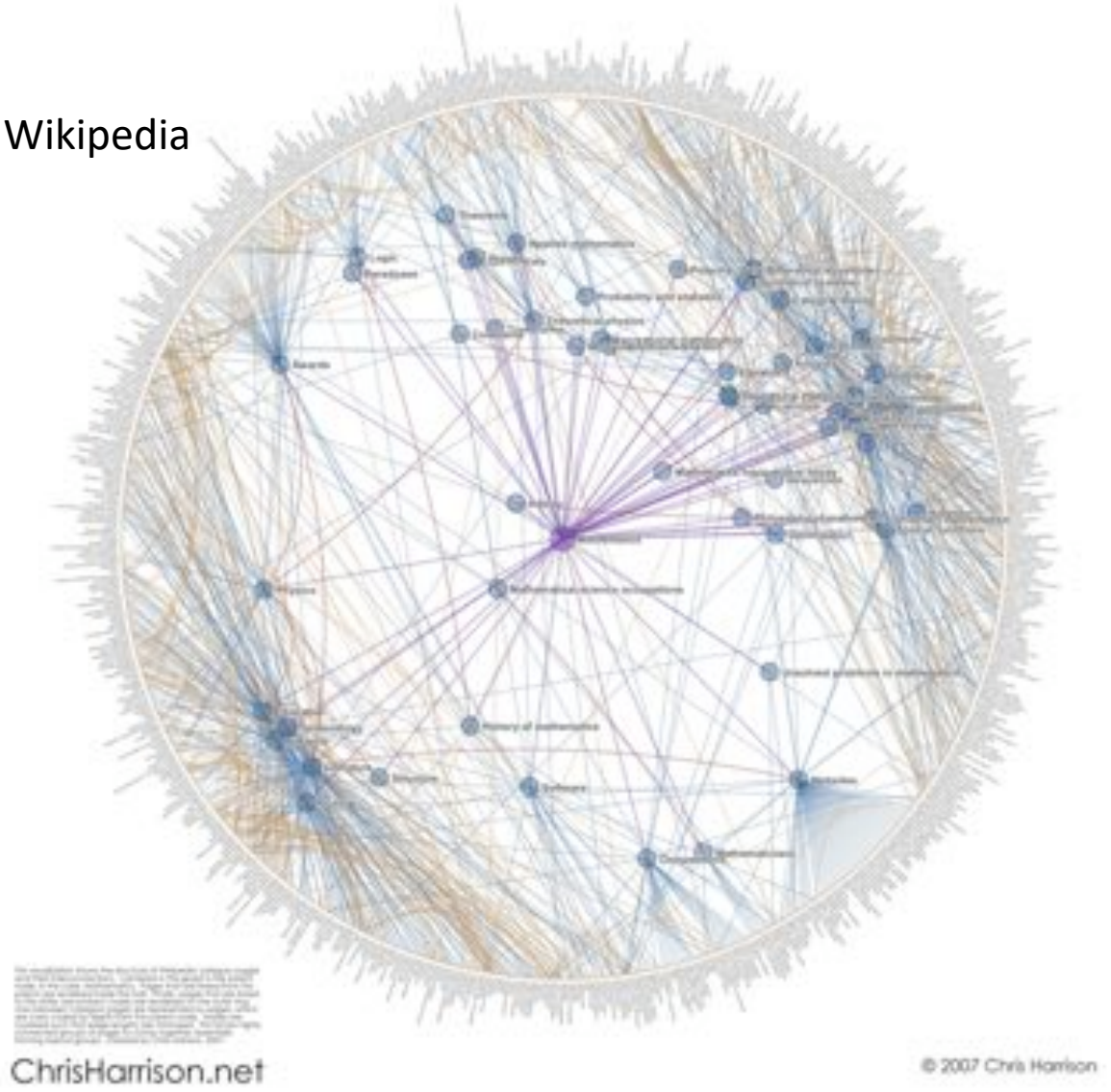
Airline Route maps

What does this graph represent?

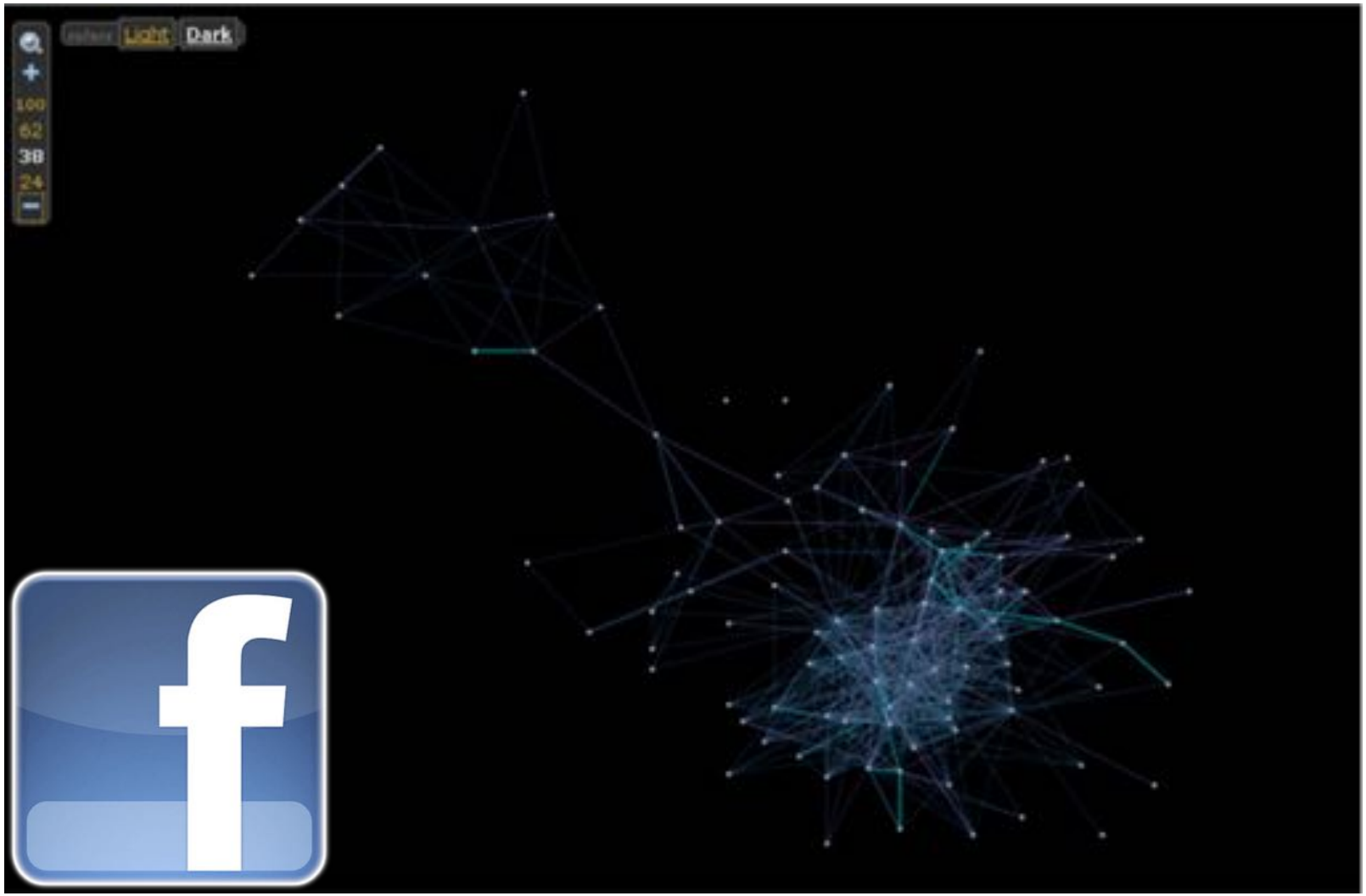


And this one?

Math articles on Wikipedia



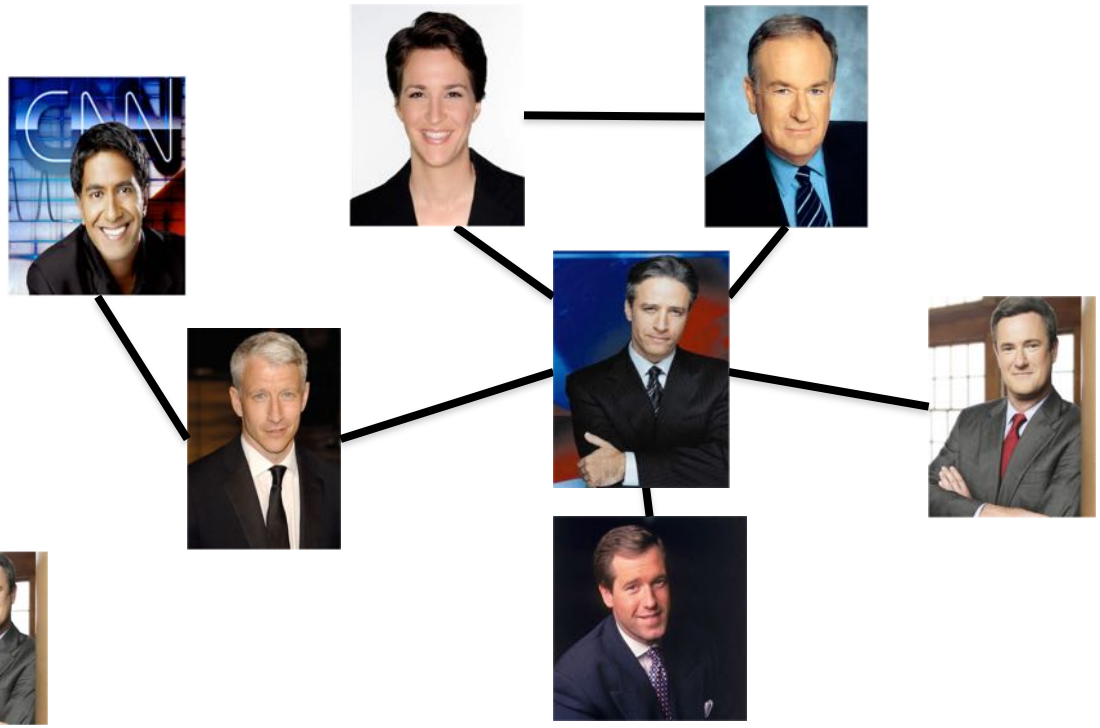
And this one?



Rest of today's agenda

Basic Graph definitions

Paths



Connected

Sequence of vertices connected by edges

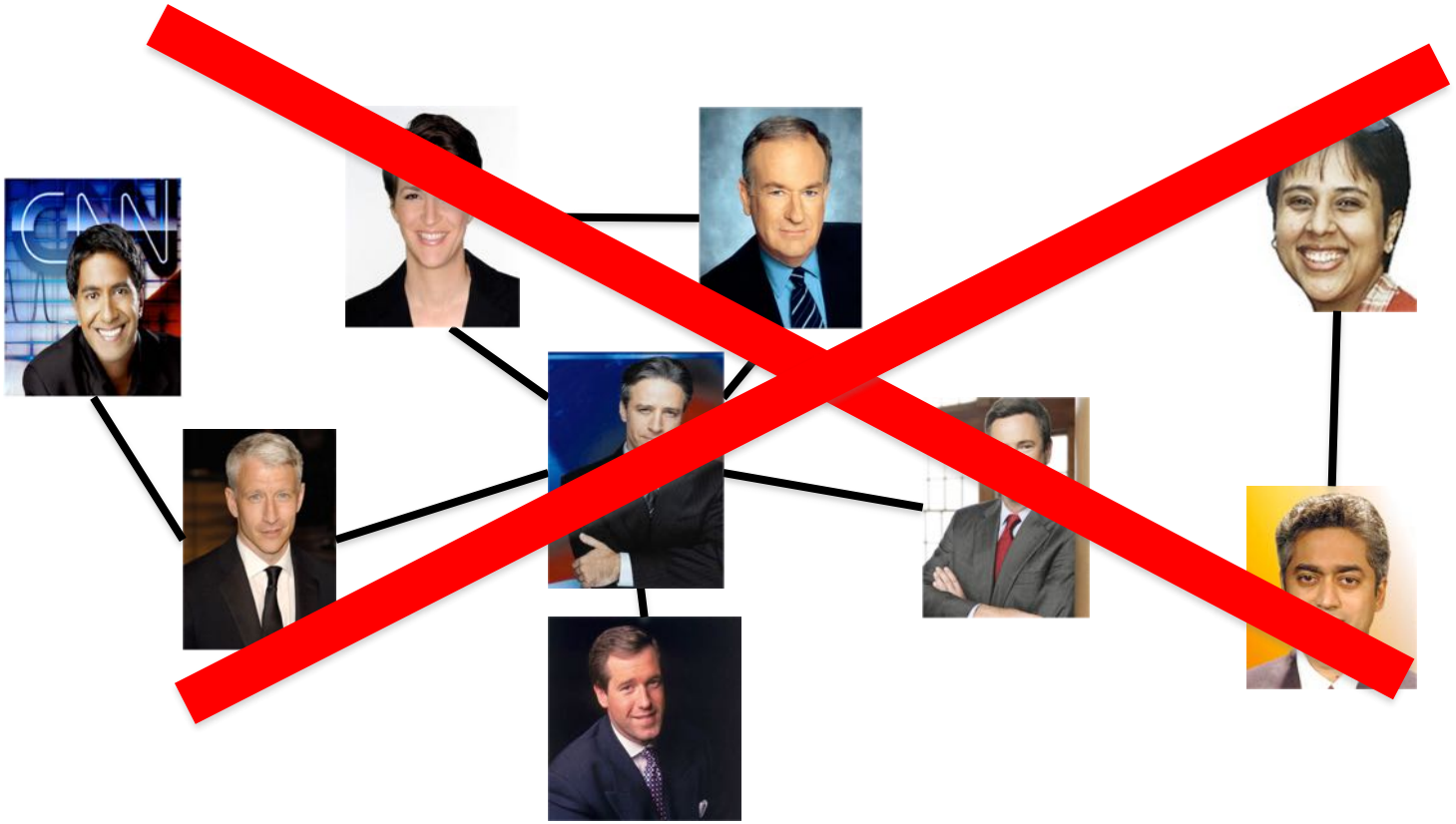
Path length 3

Connectivity

u and w are connected iff there is a path between them

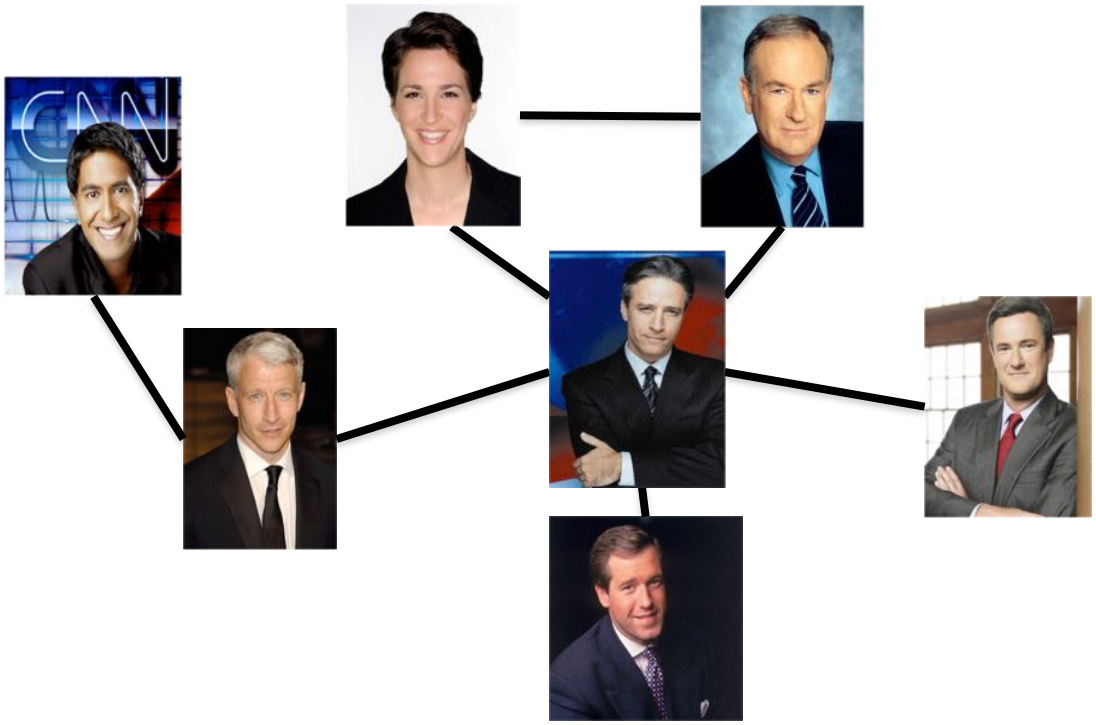
A graph is connected iff all pairs of vertices are connected

Connected Graphs

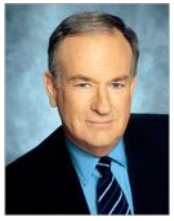


Every pair of vertices has a path between them

Cycles



Sequence of k vertices connected by edges, first k-1 are distinct

 ,  ,  , 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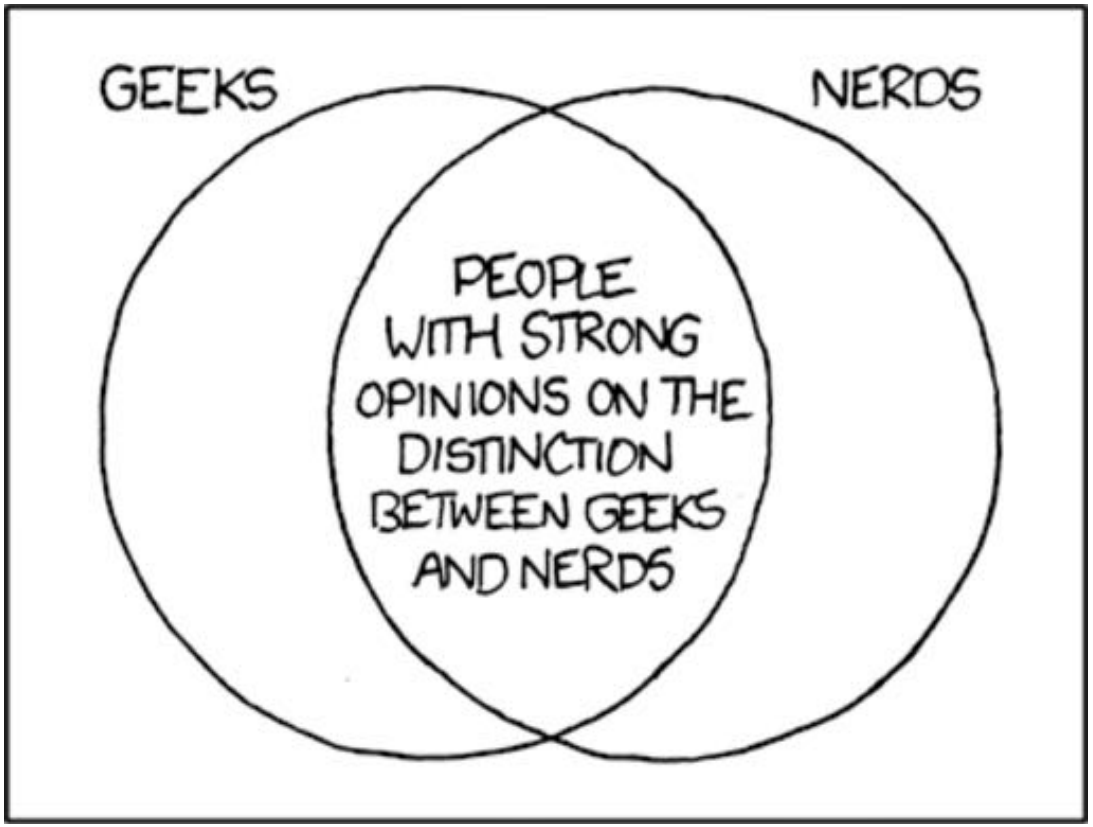
Formally define everything



http://imgs.xkcd.com/comics/geeks_and_nerds.png