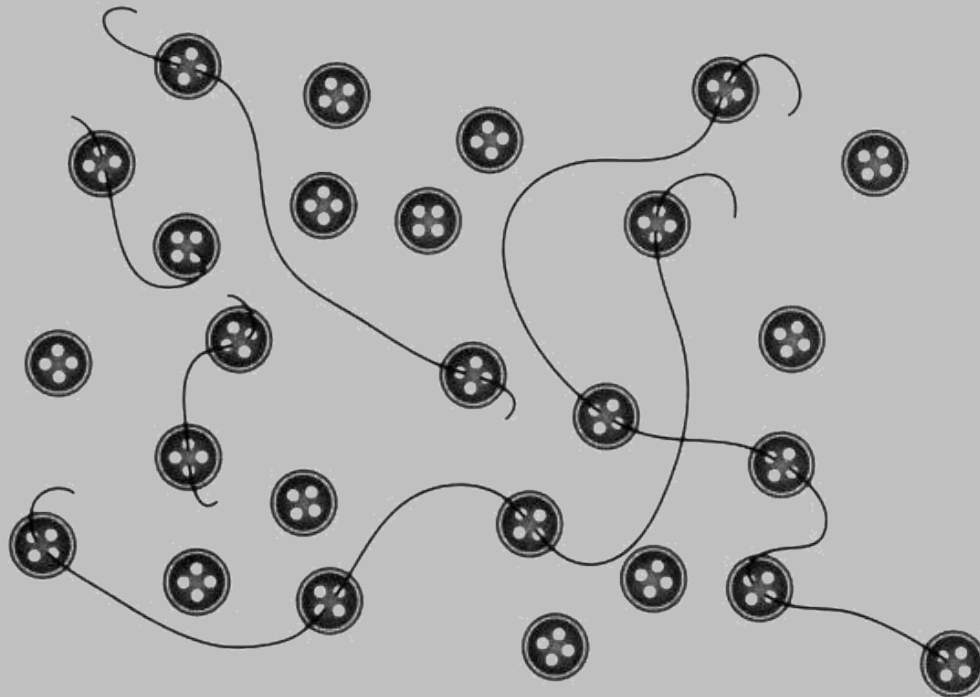


# CS-103 Announcements

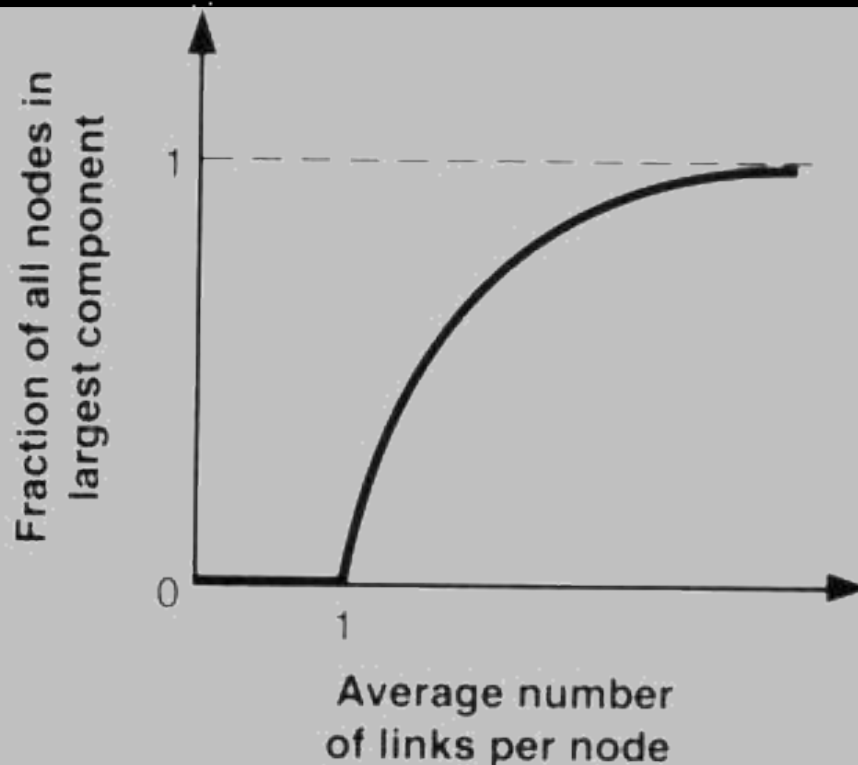
- **HW5 due now**
- **Lab Quiz 1 will be Thursday October 12**
  - In lab, full 50 minutes, HTML programming.
  - Will include material from Web 101 Ch 4 covered in labs of Sept 14, 21, 28
  - You **MUST** have working CS accounts on Windows-NT and Linux
  - Lab Quiz 1 is 5% of overall class grade

# Connected components

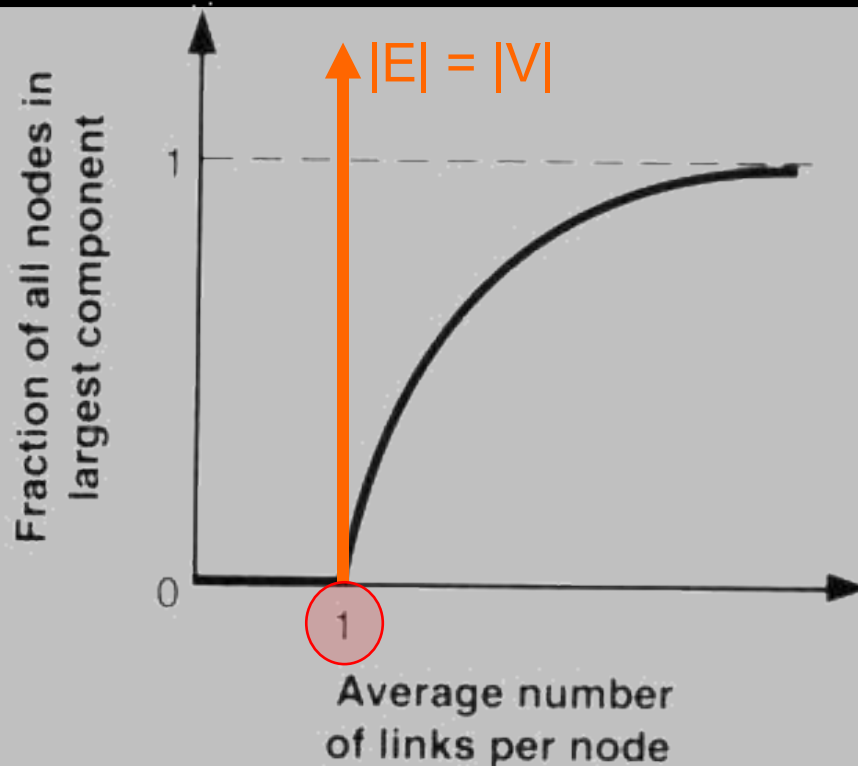
Six Degrees Ch 2 pp 44-47



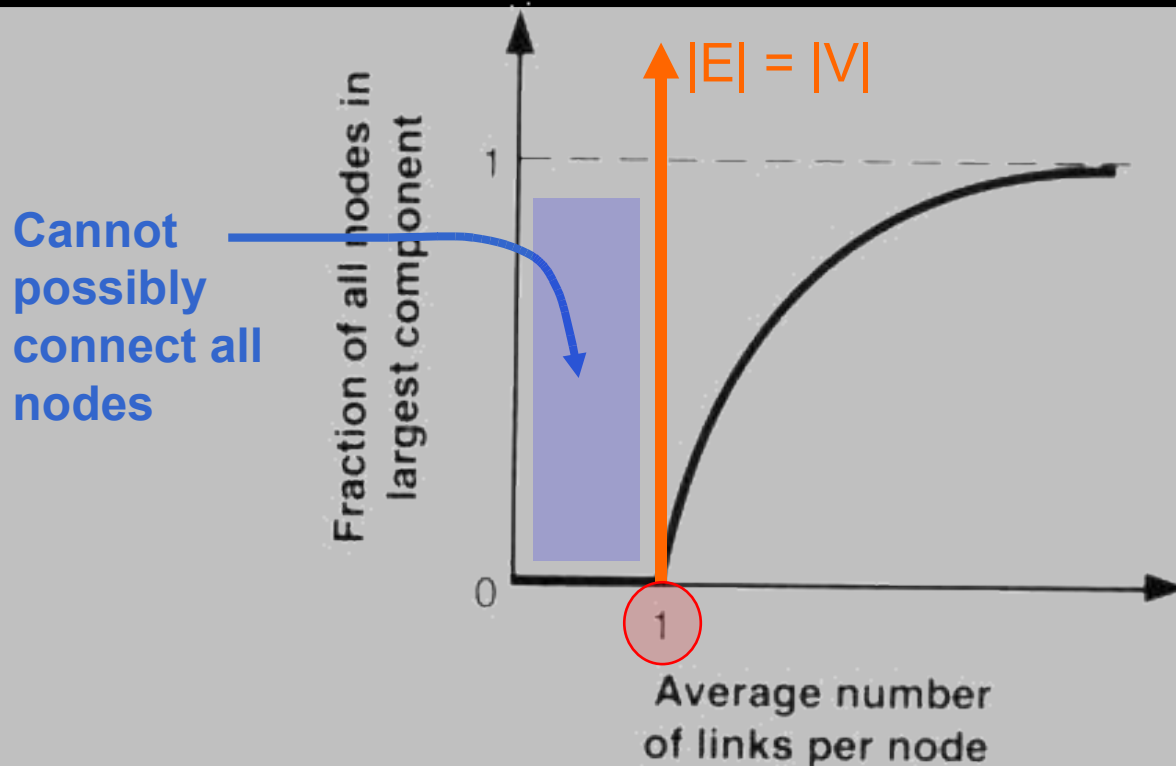
How does size of largest connected component grow as we add more random edges to graph?



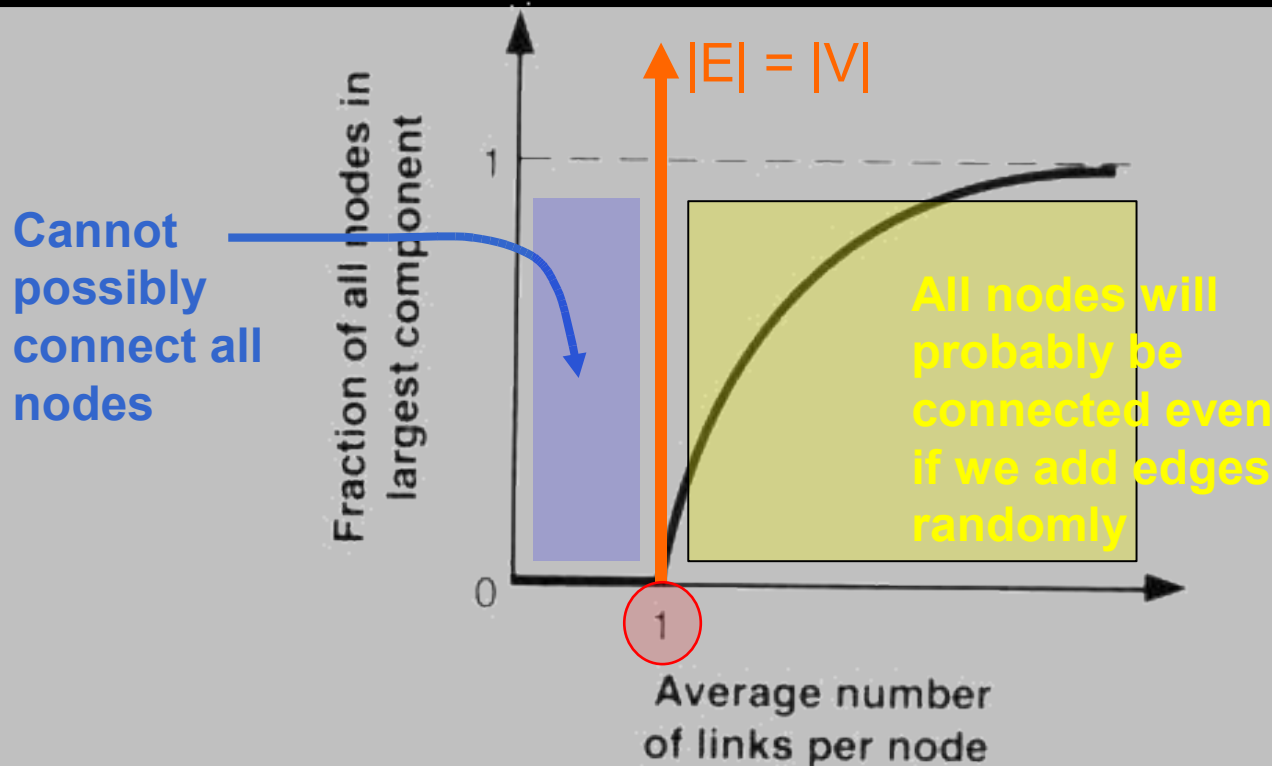
How does size of largest connected component grow as we add more random edges to graph?



How does size of largest connected component grow as we add more random edges to graph?



How does size of largest connected component grow as we add more random edges to graph?



# Different ways of measuring average # edges per node

- Average number of edges per node
  - Min: 0
  - Max:  $|V| - 1$
- Probability of edge between two nodes
  - Min: 0
  - Max: 1

# Different ways of measuring average # edges per node

- Average number of edges per node
  - Min:
  - Max:
- Probability of edge between two nodes
  - Min:
  - Max:
- **Density**

# Density

- Density =

Actual # edges in graph

-----

Max possible # edges in graph

- (Max based on # of vertices)

# Density

- Density of a graph

=

Actual # edges in graph

-----

Max possible # edges in graph

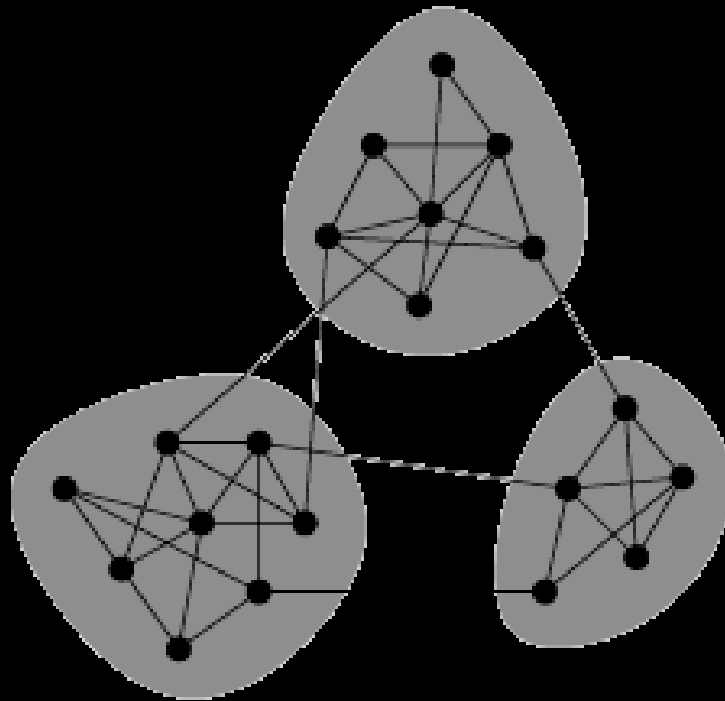
=

$|E|$

-----

$\frac{1}{2} |V| * (|V|-1)$

# Density and clustering



# Next time

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