1. **Given the following network diagram, complete the matrix.**
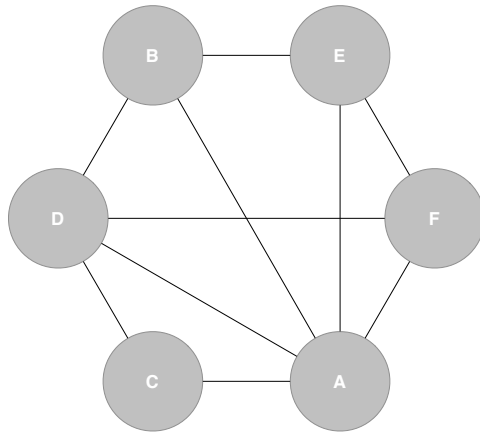
	A	B	C	D	E	F
A						
B						
C						
D						
E						
F						

**b) What type of values did you choose to use in the matrix (binary, signed, valued, etc.) and why?**

2. **What does it mean if a node has high betweenness centrality?**

3. The data below represents blogs posts discussing and linking to a viral video. The data is in the format of source ⇒ link. For example, huffington.com ⇒ video would be

interrupted as huffingtonpost.com linking directly to the video. myblog.com ⇒

huffingtonpost.com would be interpreted as myblog.com posting a link to a huffingtonpost.com blog entry about the video.

huffingtonpost.com ⇒ video	redstate.com ⇒ video
dailykos.com ⇒ video	talkingpointsmemo.com ⇒ video
wired.com ⇒ video	firedoglake.com ⇒
blogs.cnn.com ⇒ video	talkingpointsmemo.com
blog.cnbc.com ⇒ blogs.cnn.com	talkleft.com ⇒ dailykos.com
myblog.com ⇒ wired.com	redstate.com ⇒ huffingtonpost.com
huffington.com ⇒ video	ischool.uw.edu ⇒ wired.com
blogs.cnn.com ⇒ video	huffington.com ⇒ video
jeffblog.wordpress.com ⇒	blogs.cnn.com ⇒ video
huffingtonpost.com	

a) **Determine what measure of relation you will use. Explain why you chose to use this measure.**

b) **Convert the data into a matrix.**

c) **Plot the network graph.**

d) **What is the size of the network?**

e) **What are the number of possible connections?**

f) **What is the mean strength of the ties?**

g) **Calculate the degree centrality of huffingtonpost.com**.

4. Interpret the following graph of traffic through a website. The "T", "G", and "F" icons represent traffic from Twitter, Google, and Facebook.

People

News

Home

About
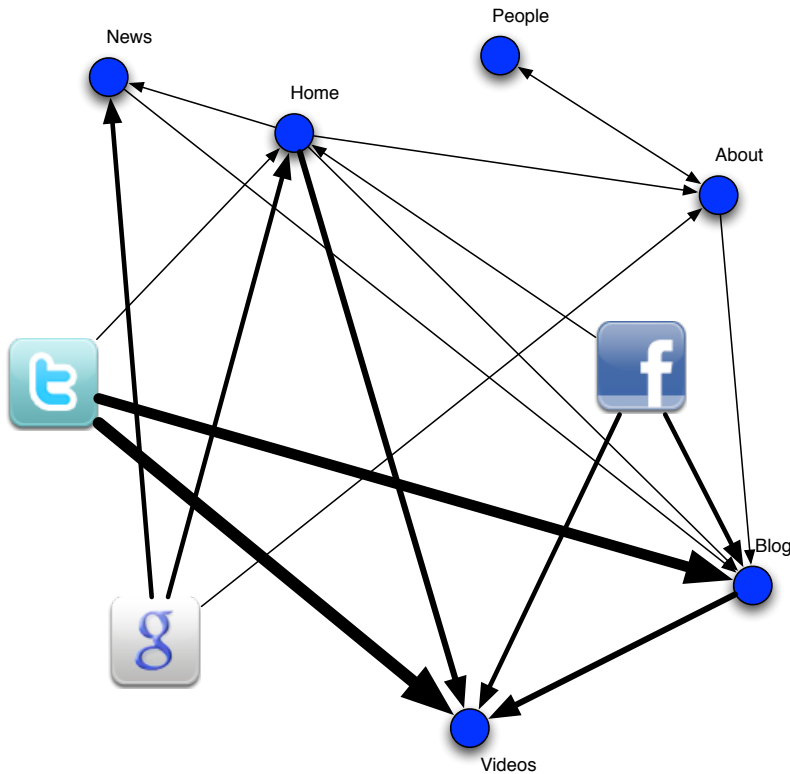
Blog

Videos

a) **What measures of centrality might be useful when analyzing this graph? What might they tell us?**

b) **According to the graph, how do most visitors get to each of the following pages: People, Videos, and Blog?**

5) **How might measures of centrality of your social network be useful when displaying your news feed in Facebook? Give a scenario how this might be applied.**

6) **Give a case where social network analysis is useful in IR.**