

Unit 9 - Week 3- Strength of Weak Ties

Course outline

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Week 3- Strength of Weak Ties

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Lecture 29 - Triads, clustering coefficient and neighborhood overlap

Lecture 30 - Structure of weak ties, bridges, and local bridges

Lecture 31 - Validation of Granovetter's experiment using cell phone data

Lecture 32 - Emeddedness

Lecture 33 - Structural Holes

Lecture 34 - Social Capital

Lecture 35 - Tie Strength, Social Media and Passive Engagement

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Assignment 3

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

Due on 2019-08-21, 23:59 IST.

1) Which among the following best denotes the probability that two randomly selected friends of a person are friends with each other?
1 point

- ☐ Neighborhood overlap between the two selected friends
☐ Clustering Coefficient
☐ Number of triads containing that person/ number of triads containing those two friends
☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

Clustering Coefficient

2) The below mentioned principle is referred as:
1 point

If two people in a social network have a friend in common, then there is an increased likelihood that

they will become friends themselves at some point in the future.

- ☐ Structural holes
☐ Social capital
☐ Triadic closure
☐ None of the above.

No, the answer is incorrect.

Score: 0

Accepted Answers:

Triadic closure

3) Considering the graph below (Figure 1), where each edge is labelled as *S* (strong tie) or *W* (weak tie) - except the edge connecting *B* and *C*. According to the theory of strong and weak ties, with the strong triadic closure assumption, what would be the label for the edge *BC*?
1 point

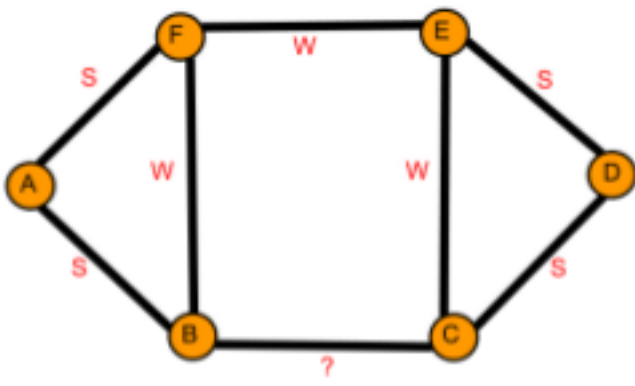


Figure 1: Graph *G*

- ☐ S (Strong)
☐ W (Weak)

No, the answer is incorrect.

Score: 0

Accepted Answers:

W (Weak)

4) True or False.
1 point

In any graph *G*, every bridge is a local bridge.

- ☐ True
☐ False

No, the answer is incorrect.

Score: 0

Accepted Answers:

True

5) Given that neighbourhood overlap of an edge *m* is equal to 0. Then *m* is
1 point

- ☐ a strong tie
☐ an edge with high betweenness
☐ a local bridge
☐ a triad

No, the answer is incorrect.

Score: 0

Accepted Answers:

a local bridge

6) Let the below given network (Figure 2) be friendship network. Then, the embeddedness of a relationship between *v*<sub>0</sub> and *v*<sub>2</sub> is:
1 point

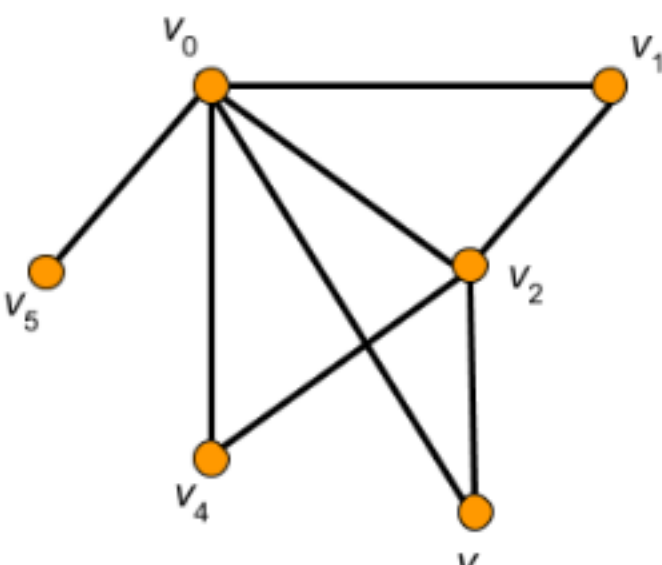


Figure 2: Friendship network

- ☐ 0
☐ 3/6
☐  $3 / \binom{3}{2}$ 
☐ 3

No, the answer is incorrect.

Score: 0

Accepted Answers:

3

7) In Girvan-Newmann algorithm, we keep removing the
1 point

- ☐ edges with lowest betweenness
☐ edges with highest betweenness
☐ nodes with highest degree
☐ nodes with lowest degree

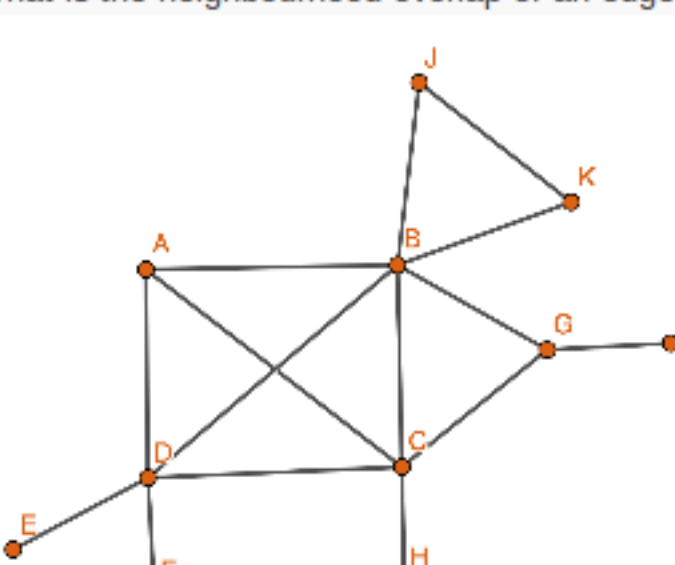
No, the answer is incorrect.

Score: 0

Accepted Answers:

edges with highest betweenness

8) What is the neighbourhood overlap of an edge connecting *D* and *B* from the below given graph?
1 point



- ☐ 2/7
☐ 2/11
☐ 3/8
☐ 3/16

No, the answer is incorrect.

Score: 0

Accepted Answers:

2/7

9) In Facebook network, a link represents *reciprocal communication* if:
1 point

- ☐ the user followed information (like, share, visiting profile etc.) about the friend at the other end of the link, whether or not actual communication took place
☐ the user both sent messages to the friend at other side of the link, and also received messages from them during the observation period
☐ the user sent one or more messages to the friend at the other end of the link (whether or not these messages were replied back)
☐ None of the above

No, the answer is incorrect.

Score: 0

Accepted Answers:

the user both sent messages to the friend at other side of the link, and also received messages from them during the observation period

10)Computing betweenness Centrality of a given node involves computing which of the following?
1 point

- ☐ All the shortest paths between the given node and the highest degree node
☐ All the longest paths between the given node and the highest degree node
☐ All the shortest paths that pass through the given node
☐ All the longest paths that pass through the given node

No, the answer is incorrect.

Score: 0

Accepted Answers:

All the shortest paths that pass through the given node