

Unit 10 - Week 4 - Homophily

Course outline

How to access the portal?

Course Trailer

Prerequisite Assignment

FAQ

Things to Note

Week 1 - Introduction

Week 2 - Handling Real-world Network Datasets

Week 3- Strength of Weak Ties

Week 4 - Homophily

- Lecture 41 - Introduction to Homophily - Should you watch your company ?
- Lecture 42 - Selection and Social Influence
- Lecture 43 - Interplay between Selection and Social Influence
- Lecture 44 - Homophily - Definition and measurement
- Lecture 45 - Foci Closure and Membership Closure
- Lecture 46 - Introduction to Fatman Evolutionary model
- Lecture 47 - Fatman Evolutionary Model- The Base Code (Adding people)
- Lecture 48 - Fatman Evolutionary Model- The Base Code (Adding Social Foci)
- Lecture 49 - Fatman Evolutionary Model- Implementing Homophily
- Lecture 50 - Quantifying the Effect of Triadic Closure
- Lecture 51 - Fatman Evolutionary Model- Implementing Closures
- Lecture 52 - Fatman Evolutionary Model- Implementing Social Influence
- Lecture 53 - Fatman Evolutionary Model- Storing and analyzing longitudnal data
- Week - 4 Feedback Form
- Quiz : Assignment 4

Week 5 - Homophily Continued and +Ve / -Ve Relationships

Week 6- Link Analysis

Week 7 - Cascading Behaviour in Networks

Week 8 : Link Analysis (Continued)

Week -9 : Power Laws and Rich-Get-Richer Phenomena

Week 10 - Power law (contd..) and Epidemics

Week 11- Small World Phenomenon

Week 12- Pseudocore (How to go viral on web?)

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Assignment 4

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

Due on 2019-08-28, 23:59 IST.

1) 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.1 point

The above principle is referred as

- Triadic closure
- Foci closure
- Membership closure
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Triadic closure

2) Two friends Simran and Soujanya like different set of food items. The set of food items Simran and Soujanya like is denoted by Si and So , respectively. Si has 17 elements whereas So has 21 elements and there are 12 items which are liked by both Simran and Soujanya ($Si \cap So = 12$). What is the *similarity measure* of Simran and Soujanya, with respect to food items.1 point

- 12/17
- 12/21
- 6/19
- 6/13

No, the answer is incorrect.
Score: 0

Accepted Answers:
6/13

3) Among the given two networks below, which network shows the better evidence of Homophily? (Nodes are divided into two types-represented by different colors)1 point

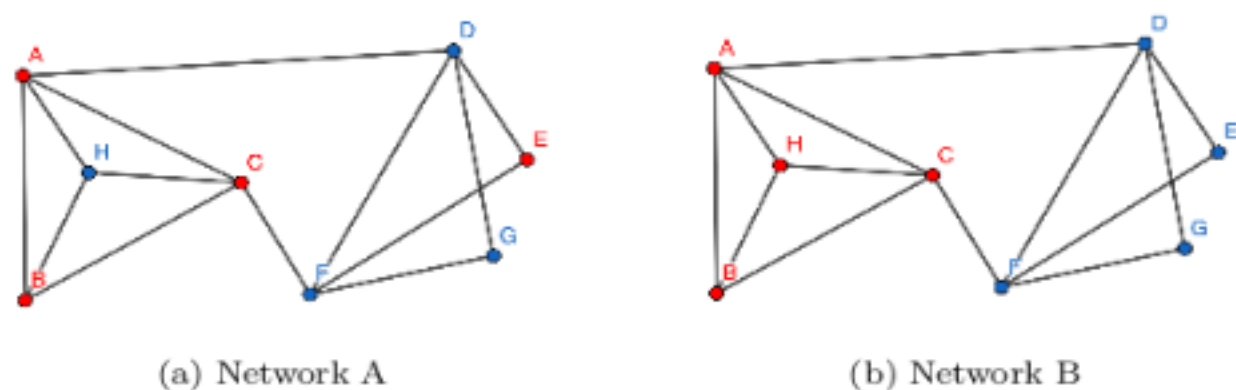


Figure 1

- Network A
- Network B
- Both exhibit equally
- Can't say

No, the answer is incorrect.
Score: 0

Accepted Answers:
Network B

4) Which phenomenon best describes the network evolution in Figure 2?1 point

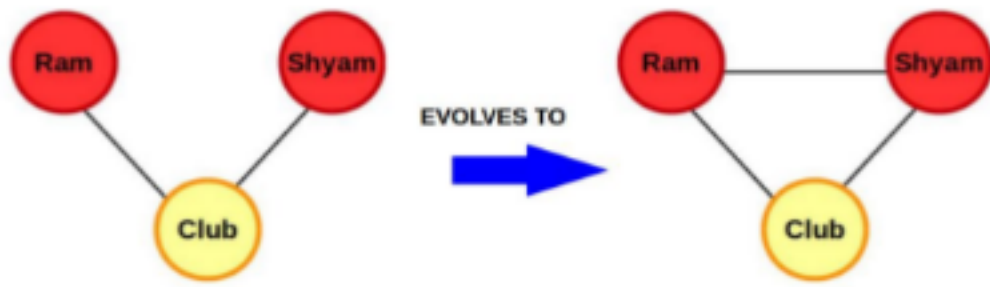


Figure 2

- Homophily
- Triadic Closure
- Foci closure
- Membership closure

No, the answer is incorrect.
Score: 0

Accepted Answers:
Foci closure

5) Dynamics of friendships formation and behaviour of people in a network is1 point

- Impacted by neither selection and social influence
- Impacted by both, selection as well as social influence
- Impacted by selection but not social influence
- Impacted by social influence but not selection

No, the answer is incorrect.
Score: 0

Accepted Answers:
Impacted by both, selection as well as social influence

6) Consider figures A, B and C in Figure 3 and choose the right kind of closure they represent (Please note that the solid line represents the existing friendship and the dotted line represents the new friendship.):1 point

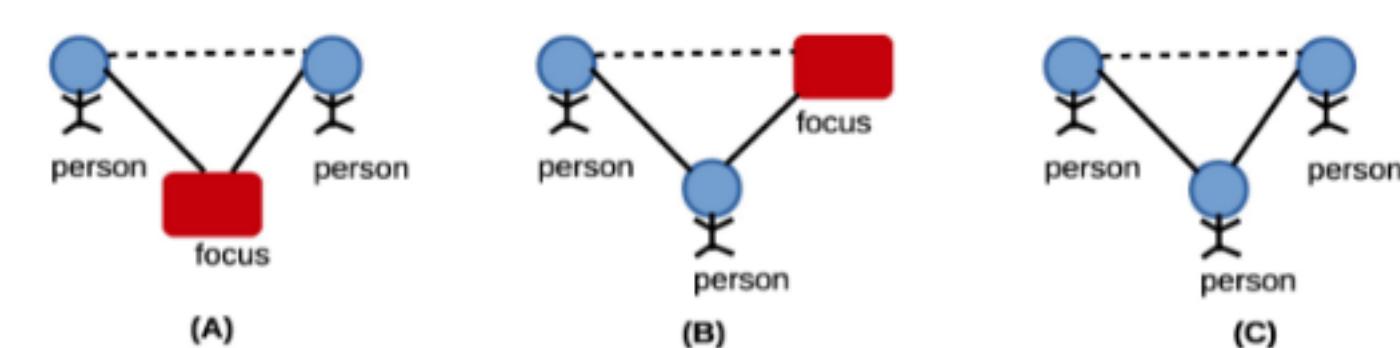


Figure 3: Closure

- A: Triadic closure, B: Membership closure, C: Focal closure
- A: Membership closure, B: Triadic closure, C: Focal closure
- A: Focal closure, B: Triadic closure, C: Membership closure
- A: Focal closure, B: Membership closure, C: Triadic closure

No, the answer is incorrect.
Score: 0

Accepted Answers:
A: Focal closure, B: Membership closure, C: Triadic closure

7) Consider the following two cases:1 point

Case 1: A and B become friends as they have n common friends.

Case 2: X and Y become friends as they have n common social foci

(where n is a large number) Choose the correct option from the following.

- Case 1 and Case 2 are equally probable
- Case 2 is more probable than Case 1
- Case 1 is more probable than Case 2
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Case 1 is more probable than Case 2

8) Suppose Monica and Chandler have k common friends. Given that each common friend gives Monica and Chandler an independent probability p of forming a link, what is the probability that there will exist a link between Monica and Chandler?1 point

- p^k
- $1 - (1 - p) \times k$
- $1 - (1 - p)^k$
- pk

No, the answer is incorrect.
Score: 0

Accepted Answers:
 $1 - (1 - p)^k$