CS 429/529 Assignment 2

Assignment Release Date: Thursday, October 13, 2022
Assignment Submissions Due: Thursday, October 20, 2022 (Due 23:59 Istanbul Timezone)
Assignment Submission: Submit on Moodle
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Maximum Points: 100

Important Notes Before You Start:

- Your homework assignment file(s) name should include your full name (first and last name) and the assignment number. Your submission should be submitted as a single pdf file on Moodle using the following name template:
  FirstName_LastName_A#no.pdf
- Homework assignments are to be done individually, partnering on this homework assignment is not allowed.
- **Penalty points:** Submissions not following the requested file naming/format will receive a 10 point cut.

Exercise 1: One-Mode Projections (Extract One-Mode Networks)

Open the sample data files that are shared along with this assignment in sample_data.zip. The three files inside the sample_data.zip form a network which shows participation of 18 people in 14 different social events.

1) (20%) Extract people-by-people network from this dataset. Include adjacency matrix and visualization of your network in your submission. (10 points for the correct adjacency matrix, 10 points for correct visualization). The visualization should have readable node labels and edge weights.

2) (20%) Extract event-by-event network from this dataset. Include adjacency matrix and visualization of your network in your submission. (10 points for the correct adjacency matrix, 10 points for correct visualization). The visualization should have readable node labels and edge weights.

Exercise 2: Interpretation and Analysis of People-by-People Network

1) (10%) What does the people x people network indicate? In other words, explain under what circumstances there is a link between two people.
2) (10%) What do the edge weights indicate in the people x people network?
3) (10%) What do the values on the loops indicate?

Exercise 3: Interpretation and Analysis of Event-by-Event Network

1) (10%) What does the event x event network indicate? In other words, explain under what circumstances there is a link between two events.
2) (10%) What do the edge weights indicate in the event x event network?
3) (10%) What do the values on the loops indicate?