Part I: Course Logistics

Problem Set #4 due tonight

Part II: Review of Problem Sets #4

What did you find?
What questions are unanswered?
How do you interpret the MDS on the bipartite CEO/Clubs graph?

Part III: Blockmodels/Positional Analysis – Student Presentation

What is positional analysis?
How does it relate to the concepts of role and position in the theoretical literature?
Why is it used?
   To find “deep structure”
   To model regularities in the data
   To do data reduction
   To study proximity in a new fashion
   To test structural hypotheses
What can we learn using positional analysis?
What is structural equivalence? How can we measure it?

The hidden issues with the structural equivalence concept
   Proximity and labeling as issues in structural equivalence analysis
Abstract equivalence ideas
   What is the difference between automorphic and regular equivalence?
   Automorphic requires similarity in numbers of connection
   Regular requires only similar connections between similar classes of actors
   When should one use the abstract models?

Part IV: The steps in building a blockmodel

Choose type of equivalence
   Tonight: only structural equivalence
   Later – isomorphism of one sort or another
Choose a measure of equivalence & running the statistics
   SE: distance
   SE: correlations – found using the command under profile or using CONCOR
   One relation or many?
Partitioning the matrix
   Clustering or CONCOR used to group equivalent actors together
   Creates a partitioning matrix
Developing the blockmodel
   Finding block densities using the partitioning matrix
   Determining the fit criteria
      Lean
      Fat
      $\alpha$ fit
   Dichotomizing the density matrix to create an image matrix

Analyzing the image matrix to understand and characterize roles
   Analyzing in and out-degree patterns
   Using centrality ideas (degree, betweenness, etc.)
   Creating visualizations

**Part V: Examples of different equivalence methods**

**Professors & students example:** www.albany.edu/faculty/kretheme/Lec9_ProEx-All.zip

**Country trade data (1965-1980):** www.albany.edu/faculty/kretheme/Lec9_CountryData.zip

**Doctors/Nurse/Patients:** http://www.albany.edu/faculty/kretheme/Lec9_DocNursePatEx.zip

**Example from Borgatti/Everett:** http://www.albany.edu/faculty/kretheme/Lec9_EverettBorgatti.zip

**Class Data Spring 2009:** http://www.albany.edu/faculty/kretheme/Lec9_ClassDataSpr09.zip

**Assignments**
- Readings per the syllabus
- Complete Problem Sets #5