BMI/CS 576 – Day 13

- Today
  - Introduction to phylogenetic trees
  - Representation, interpretation, visualization, enumeration
- Thursday
  - Simulating evolution along a tree
  - Generating distance data

Reminder: Midterm

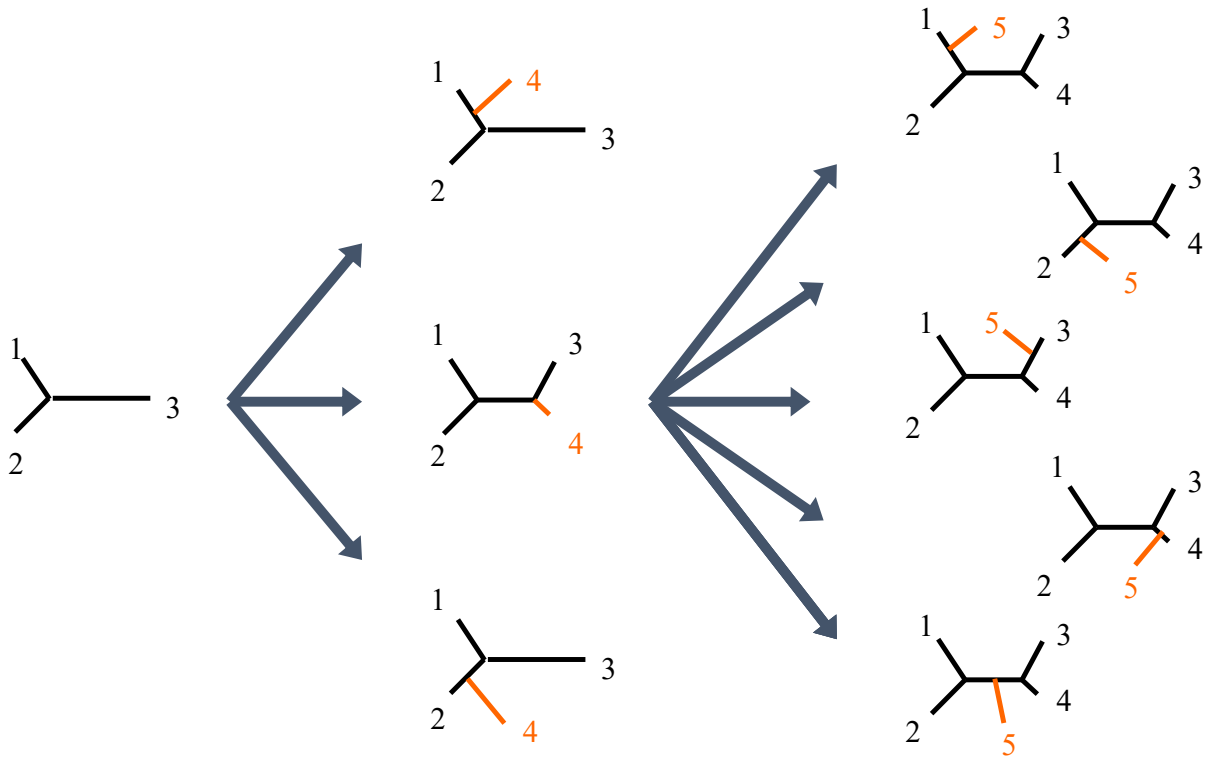
- When: Wednesday, Oct 30th, 5:30-7pm
- Where: 410 Wendt commons (this space)
- What:
  - Sequence Assembly and Sequence Alignment modules
  - Paper exam (no programming)
  - Working with and reasoning about the tasks and their associated algorithms
  - No calculator/electronic devices allowed or needed
  - Two sheets of notes allowed (handwritten recommended!)
  - Old exams available on Canvas

How do we evaluate tree reconstructions?

- Simulated data
  - we know the true tree
  - Can compare reconstructed tree with true tree
- Real data
  - we do not know the truth
  - compare tree reconstructions via an objective function (a function of the data and predicted tree)
    - Parsimony scores – we'll get to this next week
    - Deviation from distance estimates
    - In practice: statistical (likelihood or posterior) objective functions

Tree counting

- Count number of trees by using a construction process and count the number of different ways that process could go



possible trees = 1 x 3 x 5 = 15