MATH 634, Spring 2014
Homework 2
due 5:00pm on Monday, February 3.

Background reading: Pearls in Graph Theory, Sections 1.1 and 1.2.

Follow the posted homework guidelines when completing this assignment.

Problems **2D**, **2P**, and **2E** should be typed (or written up) and handed in as class starts on Monday 2/3:

2D.
- isomorphic graphs
- complement of a graph
- disjoint union of two graphs
- subgraph
- induced subgraph

2E. Find two graphs that have at least five vertices and that have **the same** degree sequence, where one of them **is** a tree and where the other **is not** a tree.

2P. Are any of these degree sequences graphic?

(a) 5 5 4 4 3 2 2 (b) 6 6 4 4 4 2 2 (c) 6 6 6 6 6 6 (d) 6 6 6 6 6 6 6

If you determine that the sequence is graphic, draw a graph with the given degree sequence. If you determine that the sequence is not graphic, prove it.