

# CS207 (Discrete Structures)

## Exercise problem set 7

September 24, 2015

Solve the following questions from Douglas West's book, *Introduction to Graph Theory, 2nd Edition*.

1. Simple questions: Exercise 1.1.4, 1.1.9
2. Medium-level questions: Exercises 1.1.19, 1.1.41, 1.1.42, 1.3.20, 1.3.31, 1.3.32
3. Slightly harder/longer questions: Exercises 1.3.13, 1.3.50
4. Simple: There are 100 circles forming a connected figure on the plane. Can this figure be drawn without lifting the pencil off the paper or drawing any part of any circle twice? Why or why not?
5. Not-so-simple: Show that a simple graph  $G$  with  $n$  vertices is connected if it has more than  $(n-1)(n-2)/2$  edges.