Homework Problems 5: Due October 29

Answer these questions throughout the upcoming week and bring this completed sheet to turn in at the beginning of CS103A next week.

Lecture 11: Graphs, Part II

i. What is the pigeonhole principle?

ii. What is the generalized pigeonhole principle?

Lecture 12: Induction, Part I

i. What are the steps in a proof by induction?

ii. Explain in your own words why induction works. (We’re looking for an intuitive explanation rather than a formal proof here – feel free to refer to any of the analogies used in class.)

Lecture 13: Induction, Part II

i. How is complete induction different from regular induction?

ii. In what scenarios would you want to use complete induction versus regular induction?
CS103 Pulse Check

i. How did the midterm go for you?

ii. What’s one thing that went well for you during the exam?

iii. What’s one thing that could’ve gone better for you during the exam?

iv. Spend some time reflecting on how you prepared for the first midterm and commit to at least one way you’d like to change your study strategy for the next midterm. Some examples:
   • I will go to lecture in person and take my own notes
   • I will go back and redo proofs from previous problem sets
   • I will attend the practice midterm
(We will check in with you in a few weeks to see if you’ve been keeping up with this!)

v. Overall, how is CS103 going? Is there anything we can be doing in CS103A to better support you? (topics you’d like more practice with, problem solving strategies, etc.)