Problem Set 6

Both theory and programming questions are due **Tuesday, November 22** at **11:59PM**. Please submit your solutions on `http://alg.csail.mit.edu`. The site will prompt you for your answers to the questions, so you do not need to create a solution template. The site will be open for PS2 submissions by Thursday, September 22. You don't need to wait until then to work on your solutions, and we encourage you to start early.

Remember, your goal is to communicate. Full credit will be given only to a correct solution which is described clearly. Convoluted and obtuse descriptions might receive low marks, even when they are correct. Also, aim for concise solutions, as it will save you time spent on write-ups, and also help you conceptualize the key idea of the problem.

We will provide the solutions to the problem set 10 hours after the problem set is due, which you will use to find any errors in the proof that you submitted. You will need to submit a critique of your solutions by **Friday, October 7th, 11:59PM**. Your grade will be based on both your solutions and your critique of the solutions.

Collaborators: Benyamin Jazayeri

Problem 6-1. [45 points] **I Can Haz Moar Frendz?**

(a) [1 point]

Answer: use weights 1/log(ER) and do bellman-ford but only update after checking all the nodes and do it for k iterations

Problem 6-2. [55 points] **RenBook Competitor**

(a) [1 point]

Answer: use DFS to topological sort O(V+E)

(b) [1 point]

Answer: use BFS at the end point to find the installed nodes in O(PD) and to DFS on them in O(P+PD)