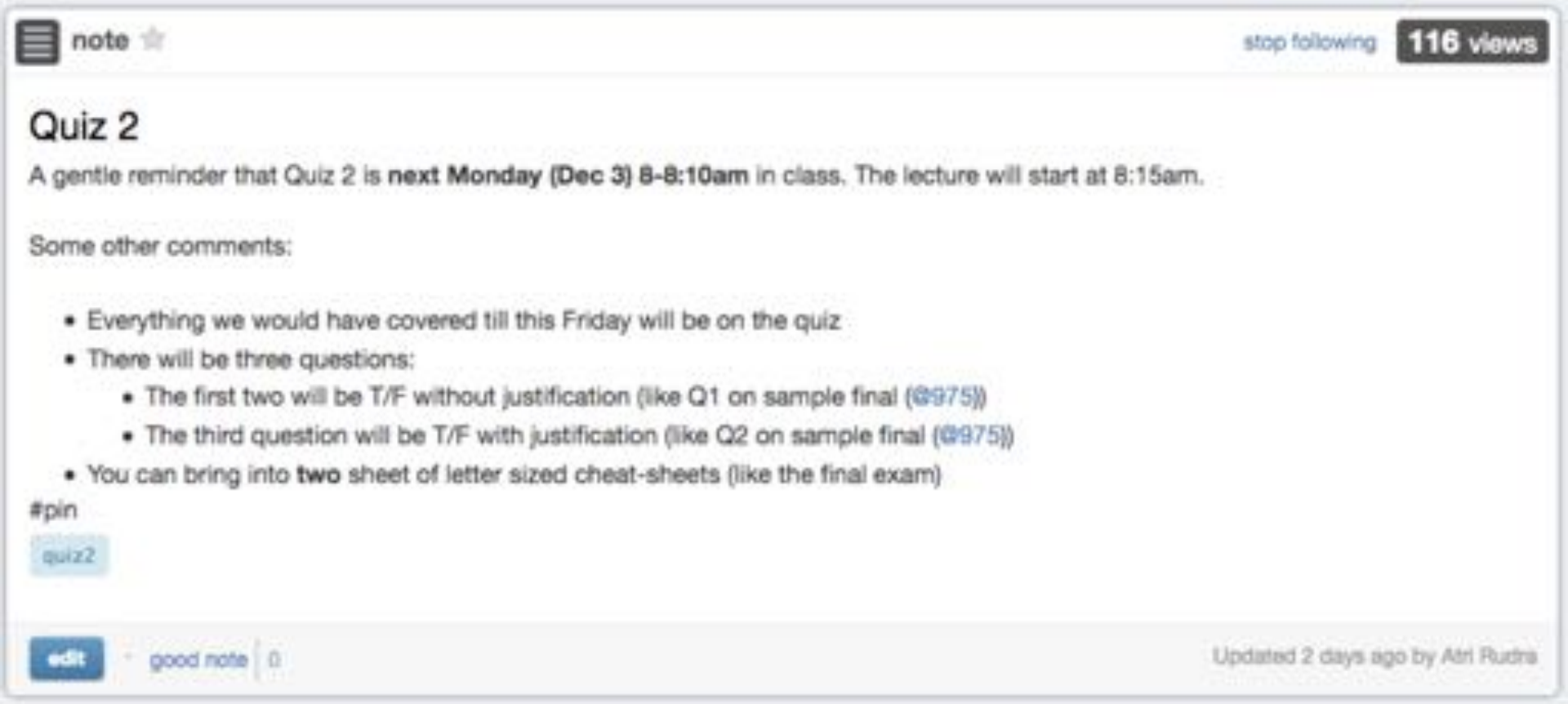
Lecture 36

CSE 331

Nov 30, 2018

Quiz 2 on Monday



note ☆ stop following 116 views

Quiz 2

A gentle reminder that Quiz 2 is **next Monday (Dec 3) 8-8:10am** in class. The lecture will start at 8:15am.

Some other comments:

- Everything we would have covered till this Friday will be on the quiz
- There will be three questions:
  - The first two will be T/F without justification (like Q1 on sample final (@975))
  - The third question will be T/F with justification (like Q2 on sample final (@975))
- You can bring into **two** sheet of letter sized cheat-sheets (like the final exam)

#pin

quiz2

edit · good note | 0 Updated 2 days ago by Atri Rudra

You can use two letter sized cheatsheets

Last HW up!

Homework 10

Due by **11:59pm, Thursday, December 6, 2018**.

Make sure you follow all the homework policies.

All submissions should be done via Autolab.

Question 1 (Programming Assignment) [30 points]

</> Note

This assignment can be solved in either Java, Python or C++ (you should pick the language you are most comfortable with). Please make sure to look at the supporting documentation and files for the language of your choosing.

The Problem

In this problem, you are given a directed graph (in adjacency list representation) $G = (V, E)$ where each edge $e \in E$ has cost c_e (which can be negative but G does **not** have a negative cost cycle) and a vertex $s \in V$. Your code will have to find the cost of shortest paths **from** s to every other node in V.

HW 9 solutions

At the END of the lecture

HW 8 Grading

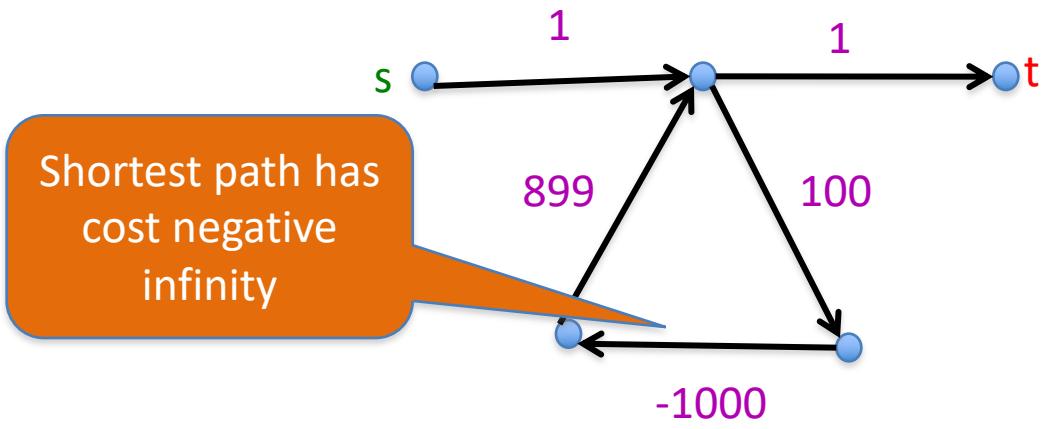
Done by tonight

Shortest Path Problem

Input: (Directed) Graph G=(V,E) and for every edge e has a cost c_e (can be <0)

t in V

Output: Shortest path from every s to t



Assume that G has no negative cycle

When to use Dynamic Programming

Richard Bellman

There are polynomially many sub-problems

Optimal solution can be computed from solutions to sub-problems

There is an ordering among sub-problem that allows for iterative solution

Today's agenda

Bellman-Ford algorithm

Analyze the run time