

15-396

Science of teh Interwebs

**There is a Test on
Tuesday!**

Topics

Preliminaries of Game Theory

Auctions

Network Traffic

Sponsored Search

Web Search I

Web Search II

Recommendation Systems

Game Theory

Finding Dominant Strategies

Finding Nash Equilibria

Network Traffic

		Player 2	
		L	R
Player 1	U	1,1	4,0
	D	2,1	1,3

**($p=2/3, q=3/4$)
is an
equilibrium!**

Player 1 is only willing to randomize if the expected payoffs of U and D are equal:
 $q+4(1-q)=2q+(1-q)$, so $q=3/4$

What is Braess's Paradox?

How do you find a Nash Equilibrium in a Traffic Network?

How bad is traffic at equilibrium?

Auctions

Why is the second-price auction truthful?

How are ads sold on Google?

Clearing prices in the VCG mechanism

Web Search

How does PageRank Work

How does Hubs and Authorities Work

Recommendation Systems

g2g

ttyl