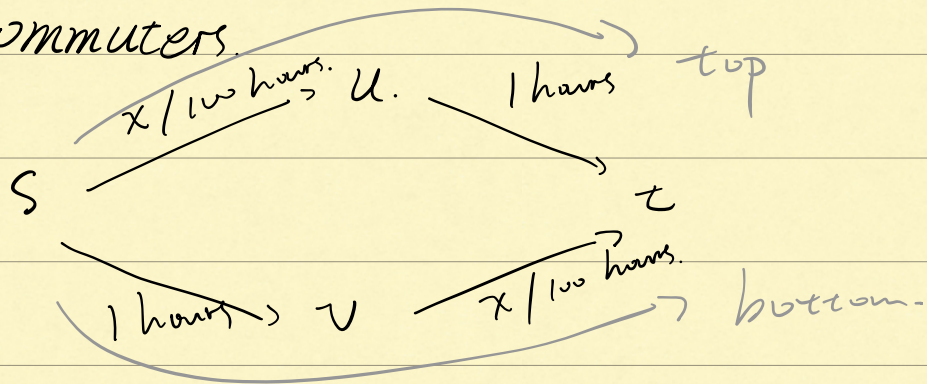


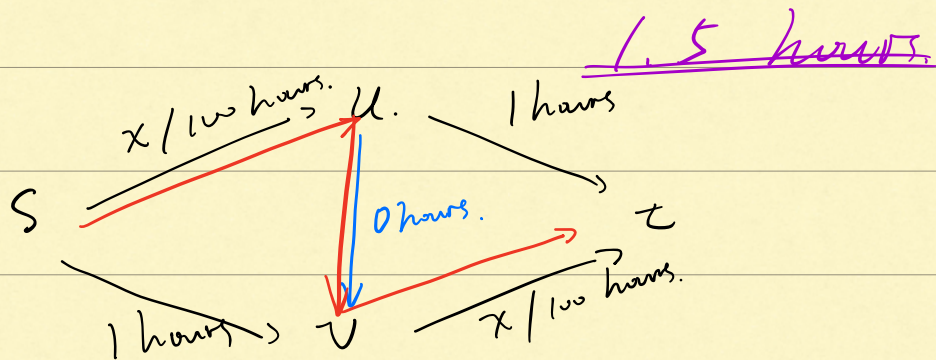
## Braess' Paradox.

100 commuters.



equilibrium: each commuters choose

top or bottom 50% / 50%.



equilibrium:  $S \rightarrow U \rightarrow V \rightarrow T$  2 hours.

$$\text{Price of Anarchy} = \frac{2 \text{ hours}}{1.5 \text{ hours}} = \frac{4}{3}.$$

Vickery Auction.

- Sealed bid auction.

- Highest bidder wins and pays the second highest bid.