

# COMP3121 Homework 6

ZHANG Caiqi 18085481d

November 24, 2020

## 1 Question 1

### 1.1 a

- Equilibrium: for A-C-B,  $x = 500$ ; for A-D-B,  $y = 500$ .
- Payoff for each driver: 17.
- If anyone deviates, his payoff will be:  $501/100 + 12 > 17$ .

### 1.2 b

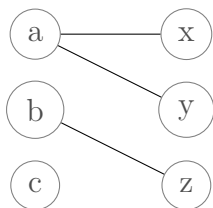
- Equilibrium: every one use A-C-D-B,  $x = y = 1000$ .
- Payoff for each driver: 20.
- If anyone deviates, his payoff will be:  $1000/100 + 12 > 20$ .

### 1.3 c

- Equilibrium: for A-C-B,  $x = 500$ ; for A-D-B,  $y = 500$ .
- Payoff for each driver: 10.
- If anyone deviates, his payoff will be:  $500/101 + 5 > 10$ .

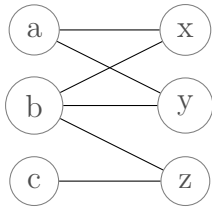
## 2 Question 2

- If  $a = 0$ ,  $b = 0$ ,  $c = 0$ ,



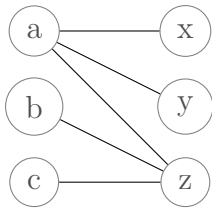
It is not a set of market-clearing prices.

- If  $a = 2, b = 1, c = 0$ ,



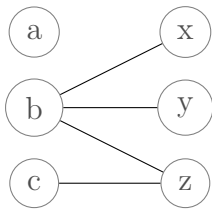
It is a set of market-clearing prices.

- If  $a = 0, b = 1, c = 0$ ,



It is not a set of market-clearing prices.

- If  $a = 3, b = 1, c = 0$ ,



It is not a set of market-clearing prices.

- Therefore, there is only one set of market-clearing prices, we choose B.