

## 1 10 Q4

Sellers a, b, and c are selling their houses for prices of 3, 1, and 0, respectively.

Buyer x values house a at 12, house b at 9, and house c at 8.

Buyer y values house a at 10, house b at 3, and house c at 6.

Buyer z values house a at 8, house b at 6, and house c at 5.

Buyer x receives the maximum payoff by purchasing from Seller a.

Payoff with a =  $12 - 3 = 9$ .

Buyer y receives the maximum payoff by purchasing from Seller a.

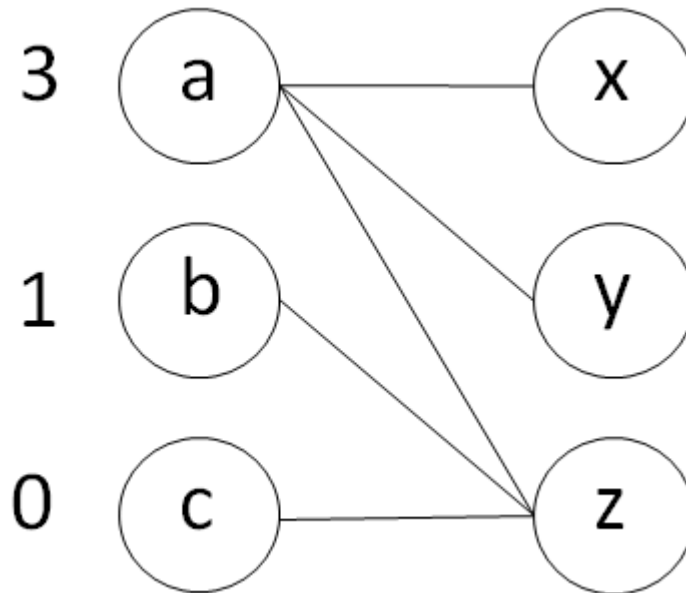
Payoff with a =  $10 - 3 = 7$ .

Buyer z receives the maximum payoff by purchasing from either Seller a, b, or c.

Payoff with a =  $8 - 3 = 5$

Payoff with b =  $6 - 1 = 5$

Payoff with c =  $5 - 0 = 5$



This set of prices is not market clearing because Buyers x and y both want to purchase from Seller a in order to maximize their payoffs. Seller a should raise their price in the next round of the bipartite auction procedure.

## 2 10 Q5

Sellers a, b, and c are selling their houses for prices 4, 3, and 1, respectively.

Buyer x values house a at 7, house b at 7, and house c at 4.

Buyer y values house a at 7, house b at 6, and house c at 3.

Buyer z values house a at 5, house b at 4, and house c at 3.

Buyer x receives the maximum payoff by purchasing from Seller b.

Payoff with b =  $7 - 3 = 4$ .

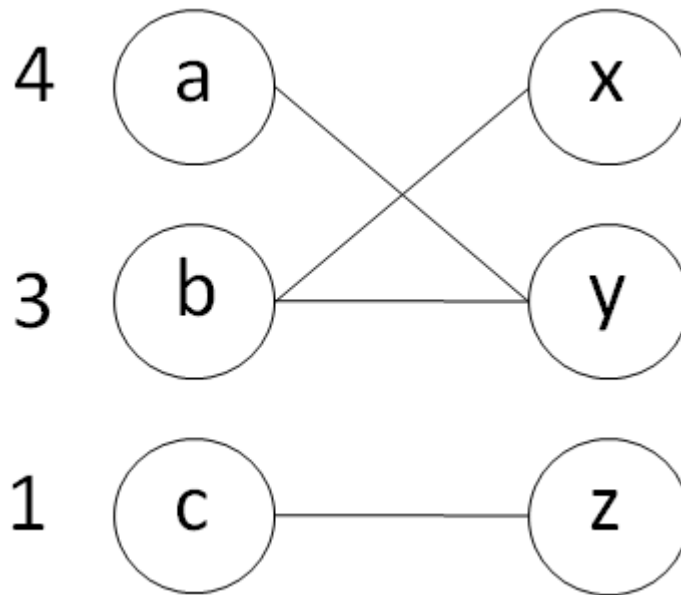
Buyer y receives the maximum payoff by purchasing from Sellers a or b.

Payoff with a =  $7 - 4 = 3$ .

Payoff with b =  $6 - 3 = 3$ .

Buyer z receives the maximum payoff by purchasing from Seller c.

Payoff with c =  $3 - 1 = 2$



This set of prices is market clearing. Buyer x can purchase from Seller b, Buyer y can purchase from Seller a, and Buyer z can purchase from Seller c. Each buyer purchases from a unique seller and receives their maximum payoff.