Double Auction

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Double Auction

- A double auction is a process of buying and selling goods when buyers and sellers submit offers simultaneously.

- The offers submitted by buyers and sellers are in the form of **limit orders**: orders to buy a certain quantity at any price *below* the bid price or to sell a certain quantity at any price *above* the ask price.

  - The **bid price** is the *highest* price a buyer is willing to pay.
  - The **ask price** is the *lowest* price a seller is willing to accept.

- The auctioneer chooses a price p that clears the market.

Double Auction

| Buyer | | Seller | |
| Bid | | Ask | |
Price	Quantity	Price	Quantity
50	300	20	100
40	500	25	100
30	100	30	400
20	200	35	200
10	400	40	500

Continuous Double Auction

- In a **continous double auction**, buyers and sellers continually submit orders in the form of limit orders and market orders.
  - **Market orders** are orders to buy or sell at the best price available.
  - Incoming market orders trade at prices placed by existing limit orders.
- The difference between the best ask price and the best bid price is known as the **bid-ask spread**.
- Markets organized in continous double auctions are called **auction markets**.
  - E.g., NYSE

Continuous Double Auction

Limit Orders in ABC Company Stock

	Bid		Ask	
	Price	Quantity	Price	Quantity
	20.87	1000	20.93	1000
	20.86	1500	20.94	100
	20.83	1500	20.99	300
	20.74	200	21.00	2000
	20.72	100		