1. Review of **Voting Methods** so far

   (a) **Plurality Voting**

   Whoever gets the most votes wins
   - winner might have much less than a majority
   - can fail Condorcet

   (b) **Instant Runoff Voting** (IRV) or **Ranked Choice Voting** (RCV)

   - Winner is preferred by a majority
   - if no majority, eliminate the candidate with the fewest 1st choice votes, and shift those votes to their next choice
   - repeat until someone has a majority
     - can fail Condorcet, monotonicity

2. **Borda Count**

   (a) **Method:**

   Assign 1 point to last place,
   2 pts to next-to-last place, etc.

   Sum all the points
   Winner has the most points

   (b) **example:**

	# votes	3	4	2	1	1
4 pts	1st choice	A	B	C	C	D
3 pts	2nd choice	C	C	D	B	C
2 pts	3rd choice	B	D	B	A	B
1 pt	4th choice	D	A	A	D	A

Plurality: A = 3
B = 4 ← plurality winner
C = 3
D = 1

A : 3(4) + 4(1) + 2(1) + 1(2) + 1(1) = 12+4+2+2+1 = 21

B : 3(2) + 4(4) + 2(2) + 1(3) + 1(2) = 6+16+4+3+2 = 31

C : 3(3) + 4(3) + 2(4) + 1(4) + 1(3) = 9+12+8+4+3 = 36

D : 3(1) + 4(2) + 2(3) + 1(1) + 1(4) = 3+8+6+1+4 = 22

C wins, with 36 points! (Note B was the plurality winner)

3. **Copeland's Method**

(a) **Method:**

Do all head-to-head matchups.

Assign 1 point to each winner

½ pt to both candidates if there's a tie.

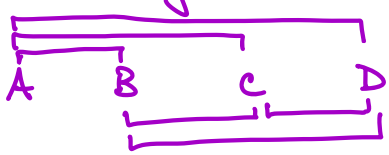
Sum all the points. Winner has the most points.

* guarantees winner is Condorcet winner, if one exists.

(b) **example:**

# votes	3	4	2	1	1
1st choice	A	B	C	C	D
2nd choice	C	C	D	B	C
3rd choice	B	D	B	A	B
4th choice	D	A	A	D	A

How many matches?



4 candidates
6 matches

A vs B

A = 3

B = 4+2+1+1 = 8

B wins

A vs C

A = 3

C = 4+2+1+1 = 8

C wins

A vs D

A = 3+1 = 4

D = 4+2+1 = 7

D wins

B vs C

B = 4

C = 3+2+1+1 = 7

C wins

B vs D

B = 3+4+1 = 8

D = 2+1 = 3

B wins

C vs D

C = 3+4+2+1 = 10

D = 1

C wins

Total points (= # wins)

A = 0

B = 2

C = 3 ← C wins under Copeland's method.

D = 1