12A: Voting Methods

Class Prep Assignment Due at the beginning of next class

Personal Reflection: Do you think the U.S. presidential election system is fair? Explain why or why not.

Voting Methods

Ranked Choice Voting and the Preference Schedule

Example 1. Students are voting for their class president and the candidates are Omar (O), Ann (A), and Helen (H). They have ranked the candidates according to their preference.

	Vien	Ann	Marv	Tasha	Eve	Omar	Lupe	Dave	Helena	Jimmy
1st choice	A	A	O	H	A	O	H	O	H	A
2nd choice	O	H	H	A	H	H	A	H	A	H
3rd choice	H	O	A	O	O	A	O	A	O	O

Make a **Preference Schedule:**

1st choice				
2nd choice				
3rd choice				

Plurality Method (only first choice counts)

	1	3	3	3
1st choice	A	A	O	H
2nd choice	O	H	H	A
3rd choice	H	O	A	O

Example 2. Five candidates are running for office and labeled A, B, C, D and E for simplicity. Which candidate wins under each method?

Plurality Method

	3	4	4	6	2	1
1st choice	B	C	B	D	B	E
2nd choice	C	A	D	C	E	A
3rd choice	A	D	C	A	A	D
4th choice	D	B	A	E	C	B
5th choice	E	E	E	B	D	C

How many people voted?
How many votes are needed for a majority win?
How many votes are needed for a plurality win?

Instant Runoff Method (Sometimes Called Sequential Runoff or Single Transferrable Vote)

	3	4	4	6	2	1
1st choice	B	C	B	D	B	E
2nd choice	C	A	D	C	E	A
3rd choice	A	D	C	A	A	D
4th choice	D	B	A	E	C	B
5th choice	E	E	E	B	D	C

Point System (Borda Count)

	3	4	4	6	2	1
1st choice	B	C	B	D	B	E
2nd choice	C	A	D	C	E	A
3rd choice	A	D	C	A	A	D
4th choice	D	B	A	E	C	B
5th choice	E	E	E	B	D	C

Condorcet Method (Pairwise Comparisons)

	3	4	4	6	2	1
1st choice	B	C	B	D	B	E
2nd choice	C	A	D	C	E	A
3rd choice	A	D	C	A	A	D
4th choice	D	B	A	E	C	B
5th choice	E	E	E	B	D	C