

Majority - If someone gets a majority ranked 1st place,
they win!

CWC - If there is a Condorcet winner, they win!

Unanimity - If all voters prefer X over Y, then Y loses.

Monotonicity - If we boost the winner, they still win.

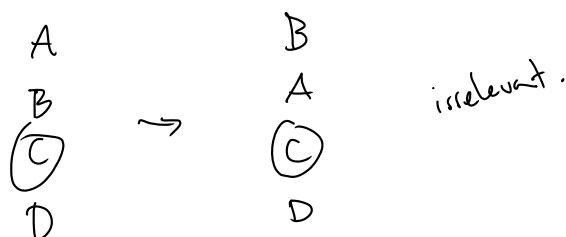
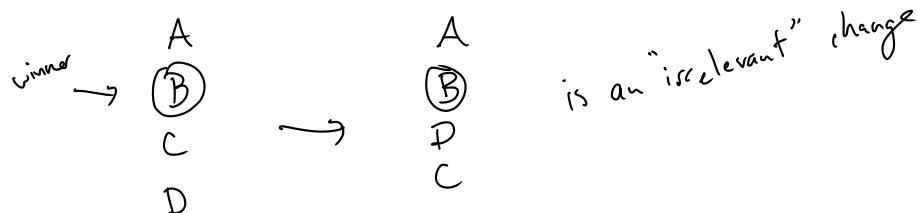
IIA - If we change rankings, but not relative to
the winner, then the winner doesn't change.

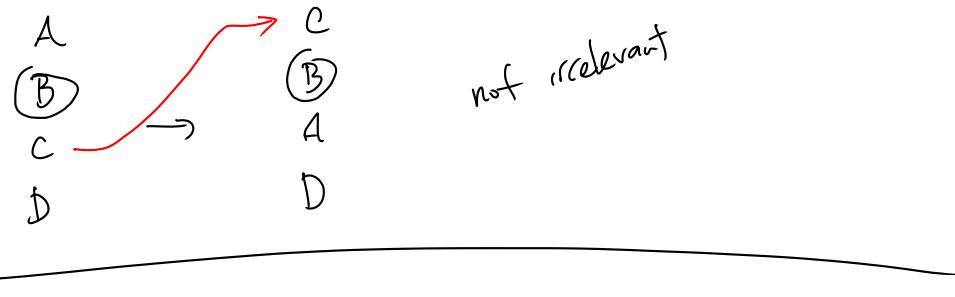
Explain why IRV satisfies unanimity.

If all voters prefer X over Y, then Y is
eliminated before X, so Y loses.

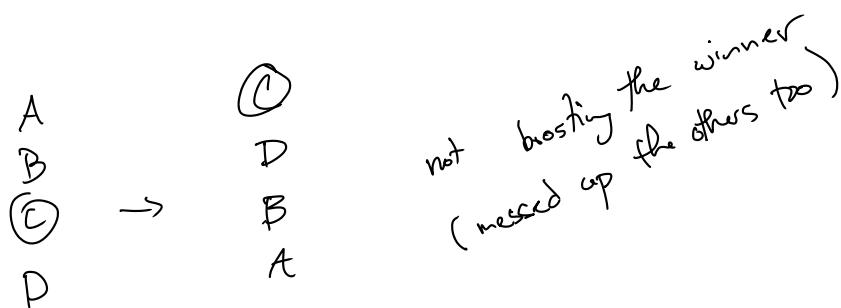
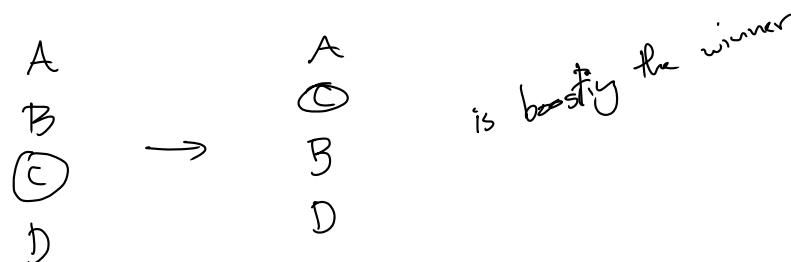
Types of changes:

IIA: change rankings, but not relative to the winner

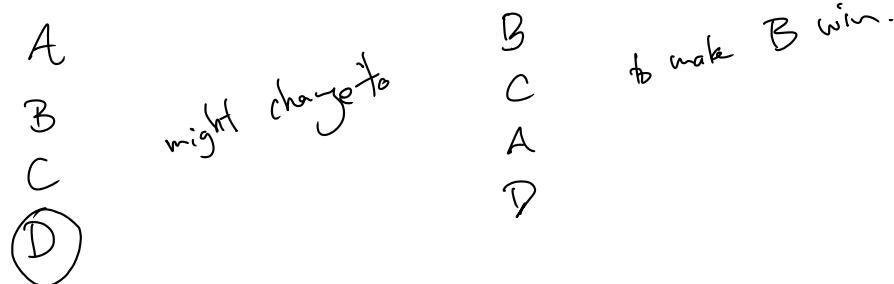




Monotonicity



Manipulation is any change which results in a preferable outcome.



$[12, 8, 5, 3]$ find Banzhaf

combinations			total	critical		
A	B	C		X	X	X
A	B		16			
A		C	13	X	X	
	B	C	11			
		B	8			
			5			
			2			
			0			

$$A: 2/4$$

$$B: 2/4$$

$$C: 0/4$$

1	2	3	2
D	A	B	C
A	B	A	A
B	D	C	B
C	C	D	D

dictatorship, if the dictator was $\begin{matrix} B \\ A \\ C \\ D \end{matrix}$. B wins!

IRV ①

$$A: 2$$

$$B: 3$$

$$C: 2$$

$$\cancel{D: 1}$$

②

$$A: 3$$

$$B: 3$$

$$\cancel{C: 2}$$

③

$$A: 5$$

$$\cancel{B: 3}$$

A wins!

A: 7

~~B: 3~~

C: 5

~~D: 3~~