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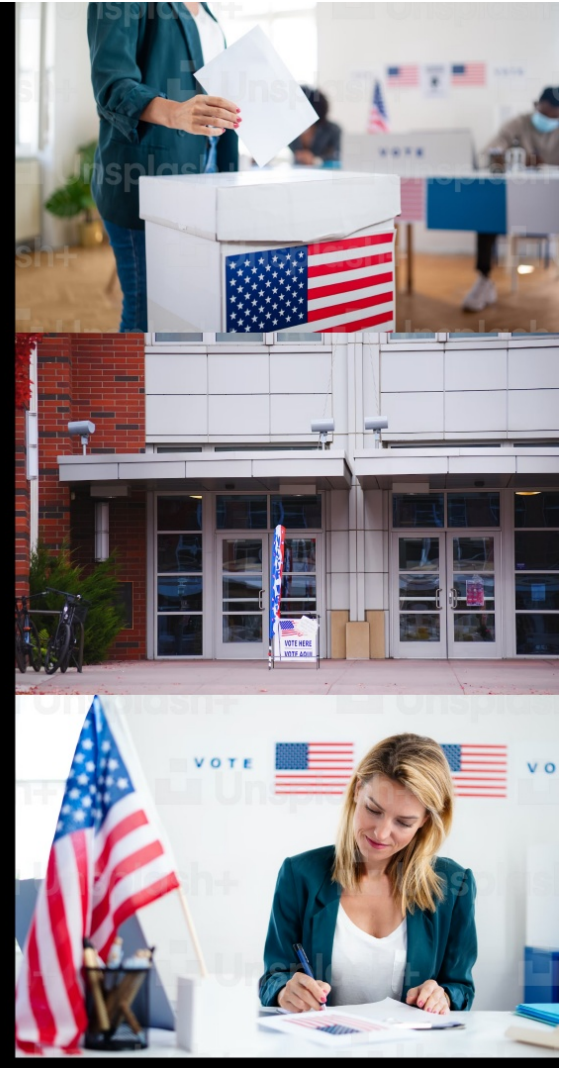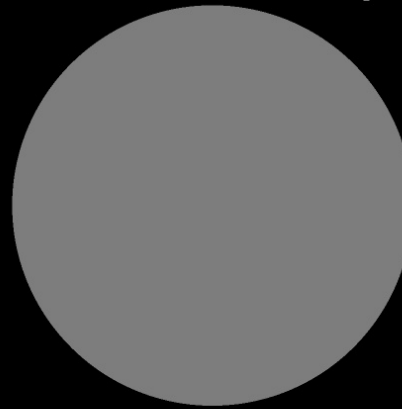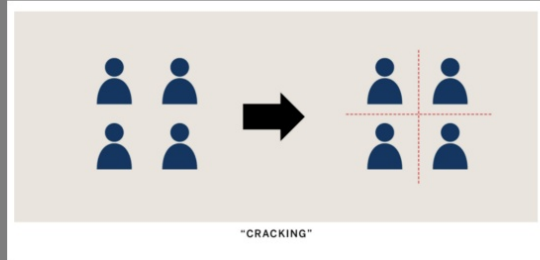
Gerrymandering
By: Jessica Novillo and Harrison Fung

Gerrymandering techniques

Cracking: "Cracking involves drawing districts in such a way as to divide a concentration of specific types of voters across several districts such that they are a minority in each one, with practically no hope of achieving representation in any of the districts. This practice also helps make districts less competitive." (Jones, M. 2018)
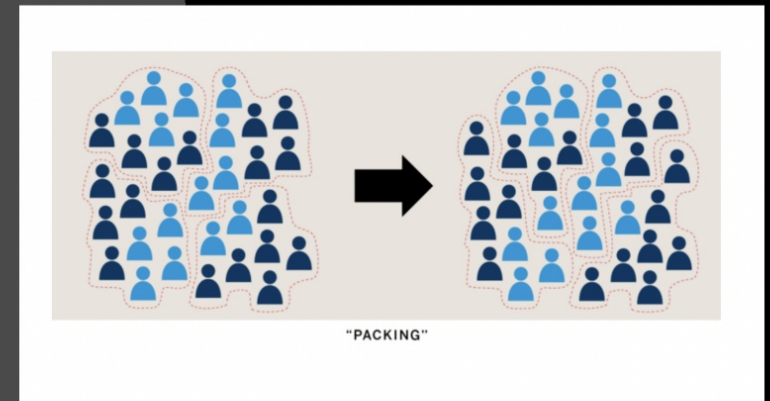

Packing

Ethical Concerns

Coding Component

Works Cited

Ethical Justification

Gerrymandering Techniques

Packing: "Packing refers to the practice of drawing particular districts in such a way as to ensure that another party's candidate wins that seat by a tremendous margin. Although the opposing party is all but guaranteed the seat, packing makes surrounding districts less competitive, and thus tips the balance of power in the legislative body overall toward the ruling party. "(Jones, M. 2018)

"PACKING"

The Voting Rights Act of 1965

- Black voters gained their right to vote.
- Black people were equally represented in the state legislature and the U.S. House of Representatives.
- "Redistricting Revolutions": All voting districts must be composed of equal populations.

Georgia

Alabama

District map not for Racist Reasons

- Georgia: 1/3 of the state is Democrat.
- Republicans state that they are trying to 'crack' or split up the population.

Terri Sewell , Black Democrat

- More than 60 percent of voters are voting for her and are Black.
- Alabama has remained Republican due to splitting and 'cracking'.
- In 2018, a federal lawsuit was filled stating that Alabama violated the Voting Rights Act, they lost.

Not many are for Gerrymandering

- For those opposed to it, there are two options. Independent panels and the For the People Act.
- Independent Panels:
  - Could break up the preferred partisan spell on a district be drawing the maps.
- For the People Act:
  - Passed the House of Representative.
  - Can curb the politcal hold in map drawing.
  - Allow people to challenge gerrymandering in maps in court.

Algorithm to generate Gerrymandering

- Two parties Blue (B) and Red (R)
- Map of voters created randomly inside a square
- Districts are randomly created
- Generate gerrymandering: cracking and packing

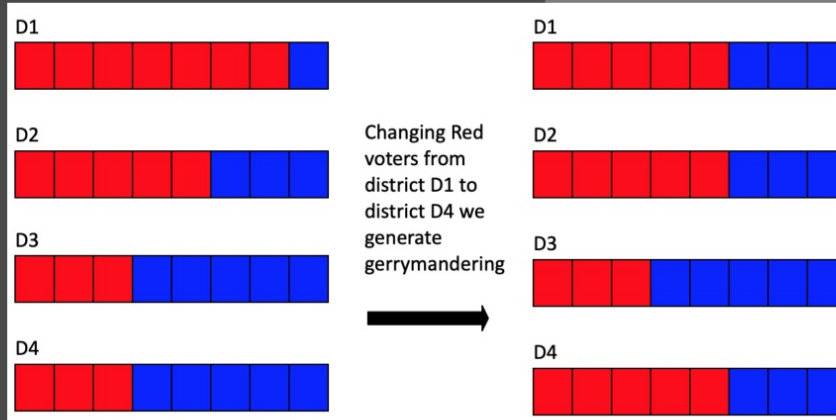| R(1)	R(2)	R(2)	B(2)	R(2)	R(2)
R(1)	B(1)	B(1)	B(1)	B(2)	B(2)
B(1)	B(1)	B(1)	B(1)	B(2)	R(2)
B(3)	R(3)	R(3)	B(3)	B(4)	R(4)
B(3)	R(3)	B(3)	R(3)	B(4)	B(4)
R(3)	R(4)	B(4)	R(4)	R(4)	R(4)

Cracking

Packing

Results

Cracking technique

If we want to make the Red party win:

winning_districts_list
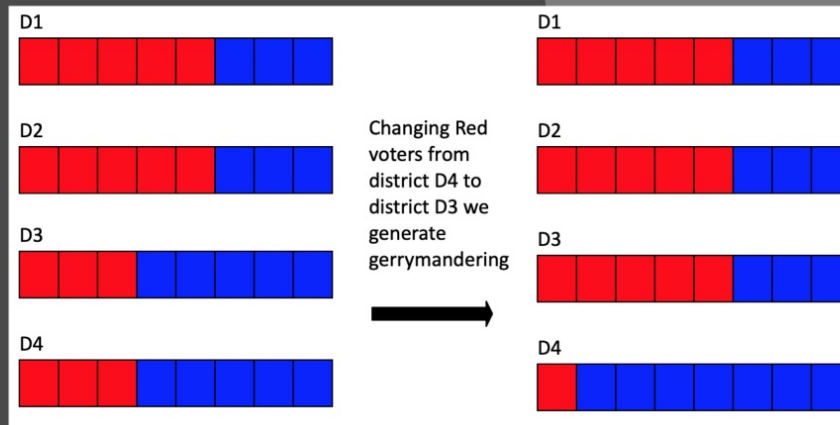
losing_districts_list

Packing technique

Making the Red party win:

winning_districts_list {

losing_districts_list {

Results

After applying gerrymandering techniques, our algorithm made the Red party win.

R(1)	R(1)	R(1)	B(2)	R(2)	R(2)
R(1)	B(1)	B(1)	B(2)	B(2)	B(2)
B(1)	B(1)	B(1)	B(2)	B(2)	R(2)
B(3)	R(3)	R(3)	B(3)	B(4)	R(4)
B(3)	R(3)	B(3)	R(3)	B(4)	B(4)
R(3)	R(4)	B(4)	R(4)	R(4)	R(4)

Tie, B:2 R:2

→

R(1)	R(2)	R(2)	B(2)	R(2)	R(2)
R(1)	B(1)	B(1)	B(1)	B(2)	B(2)
B(1)	B(1)	B(1)	B(1)	B(2)	R(2)
B(3)	R(3)	R(3)	B(3)	B(4)	R(4)
B(3)	R(3)	B(3)	R(3)	B(4)	B(4)
R(3)	R(4)	B(4)	R(4)	R(4)	R(4)

Red wins, B:1 R:3

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https://www.nytimes.com/interactive/2021/11/07/us/politics/redistricting-maps-explained.html

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