

A quantitative approach to  
Hate crimes,  
Income inequality,  
And rise of Trump.

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- Popular sentiments
- FiveThirtyEight held an evidence-based investigation
- Out of 10 candidate demographic factors, only income inequality is correlated with hate crime rate at a statistically significant level

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Trump as president -> rise in hate crime rates? 3/18

- What factors correlate with income inequality?
- Relationship between income inequality and Trump's election?

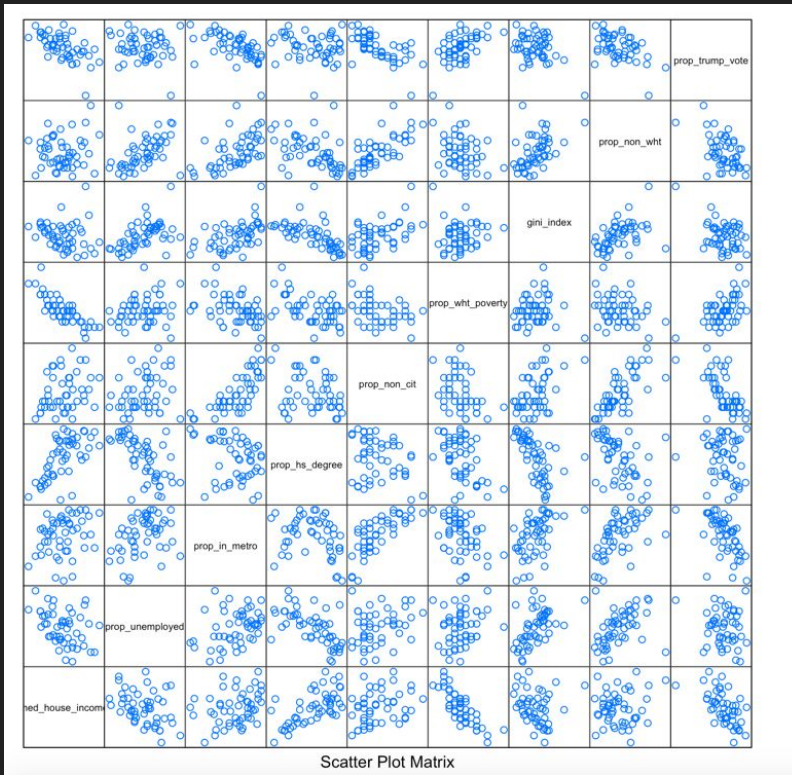
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So, our investigation starts from here

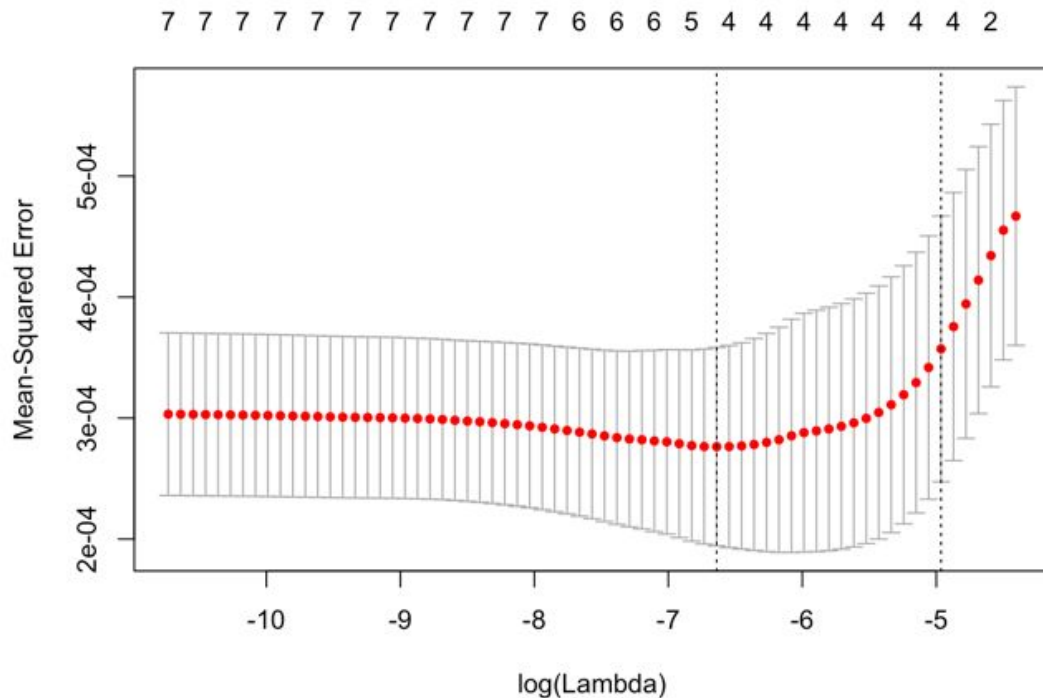
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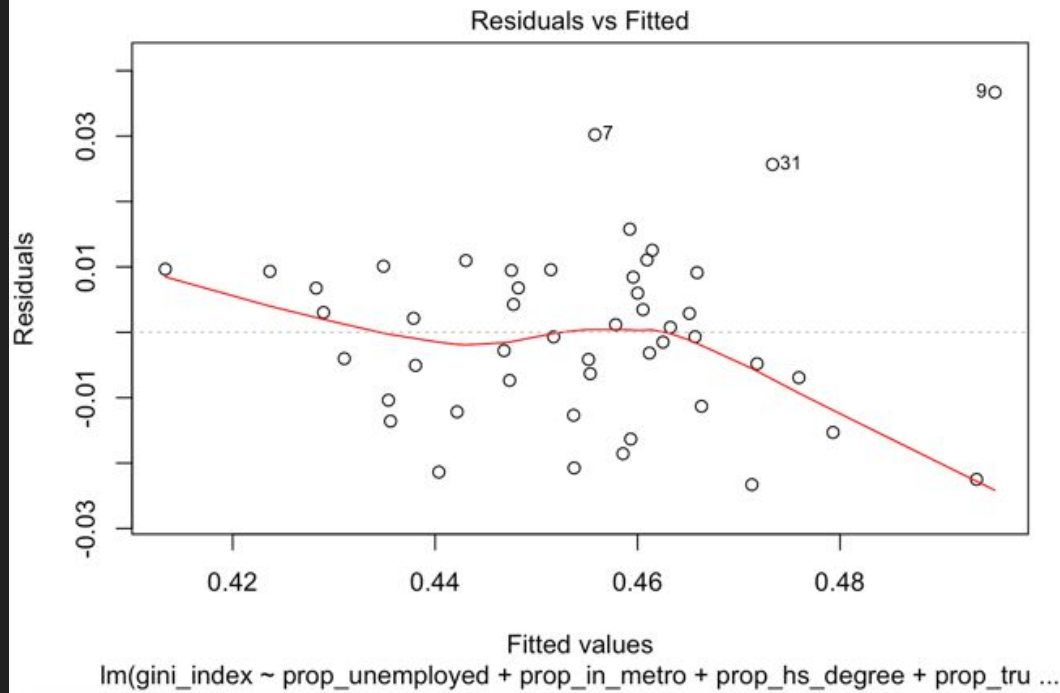
Let's first visualise the data



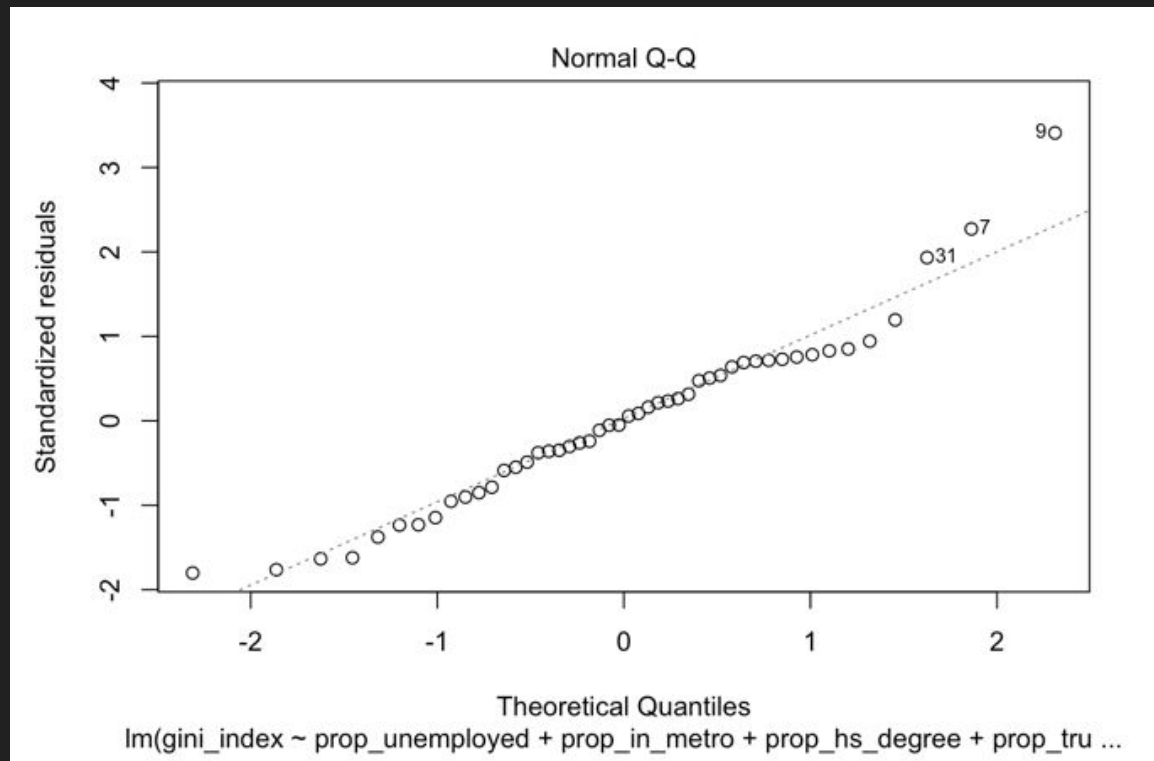
```
## 9 x 1 sparse Matrix of class "dgCMatrix"
##
## (Intercept)      0.757728781
## med_house_income .
## prop_unemployed  0.158215801
## prop_in_metro    0.007658708
## prop_hs_degree   -0.325999312
## prop_non_cit     .
## prop_wht_poverty .
## prop_non_wht     .
## prop_trump_vote  -0.070036144
```

Lasso regression for significant predictors

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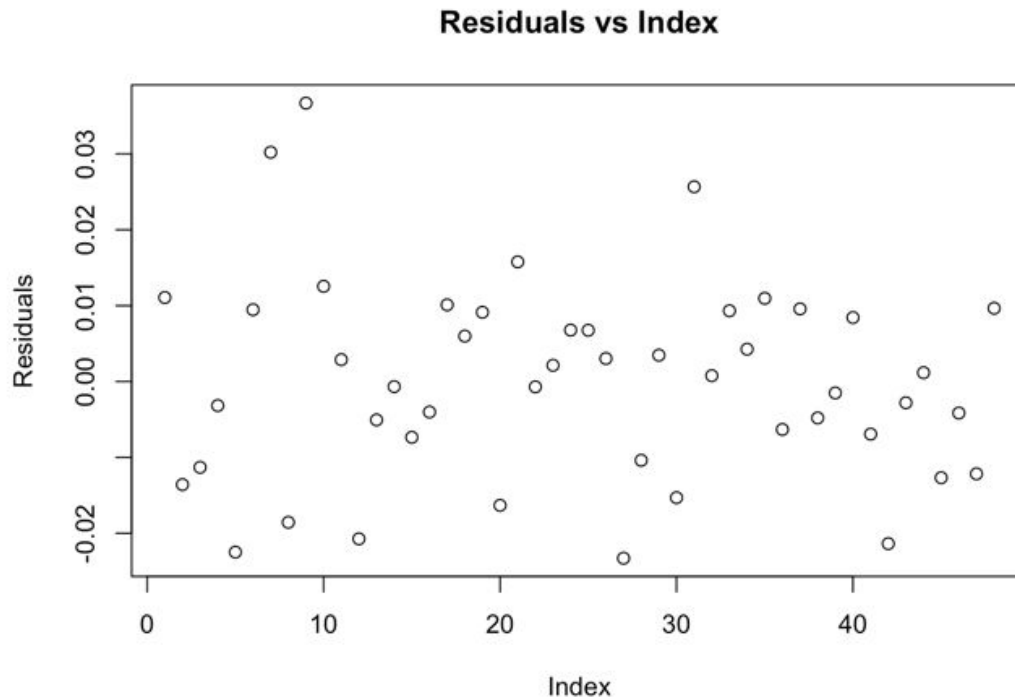






Analysis of the multivariate linear model (2)

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Analysis of the multivariate linear model (3)

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```
##
## Call:
## lm(formula = gini_index ~ prop_unemployed + prop_in_metro + prop_hs_degree +
##      prop_trump_vote, data = df_complete)
##
## Residuals:
```

	Min	1Q	Median	3Q	Max
##	-0.023292	-0.008116	0.000041	0.009174	0.036687

```
##
## Coefficients:
```

	Estimate	Std. Error	t value	Pr(> t )
## (Intercept)	0.801026	0.092616	8.649	5.83e-11 ***
## prop_unemployed	0.185557	0.246194	0.754	0.455135
## prop_in_metro	0.006779	0.016124	0.420	0.676257
## prop_hs_degree	-0.369226	0.085250	-4.331	8.73e-05 ***
## prop_trump_vote	-0.083224	0.022876	-3.638	0.000731 ***

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.01374 on 43 degrees of freedom
## Multiple R-squared:  0.6168, Adjusted R-squared:  0.5812
## F-statistic: 17.31 on 4 and 43 DF,  p-value: 1.575e-08
```

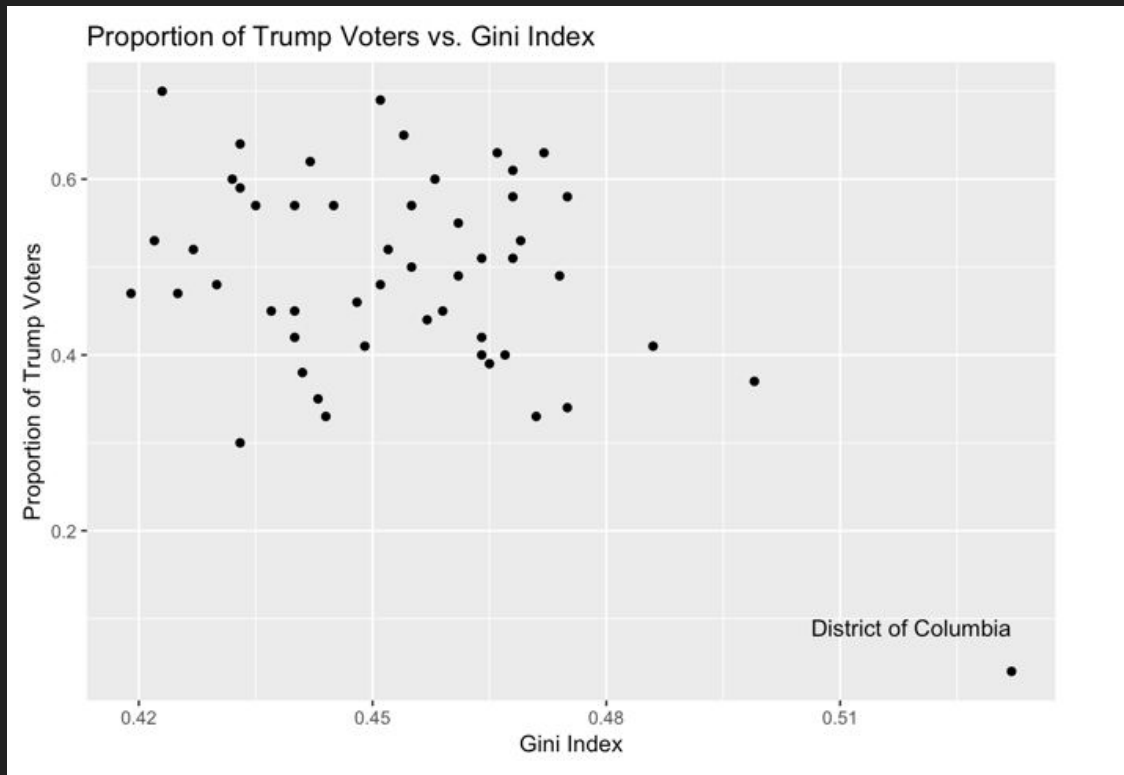
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- Income inequality: Gini coefficient
- Rise of Trump: proportion of Trump voters of a state

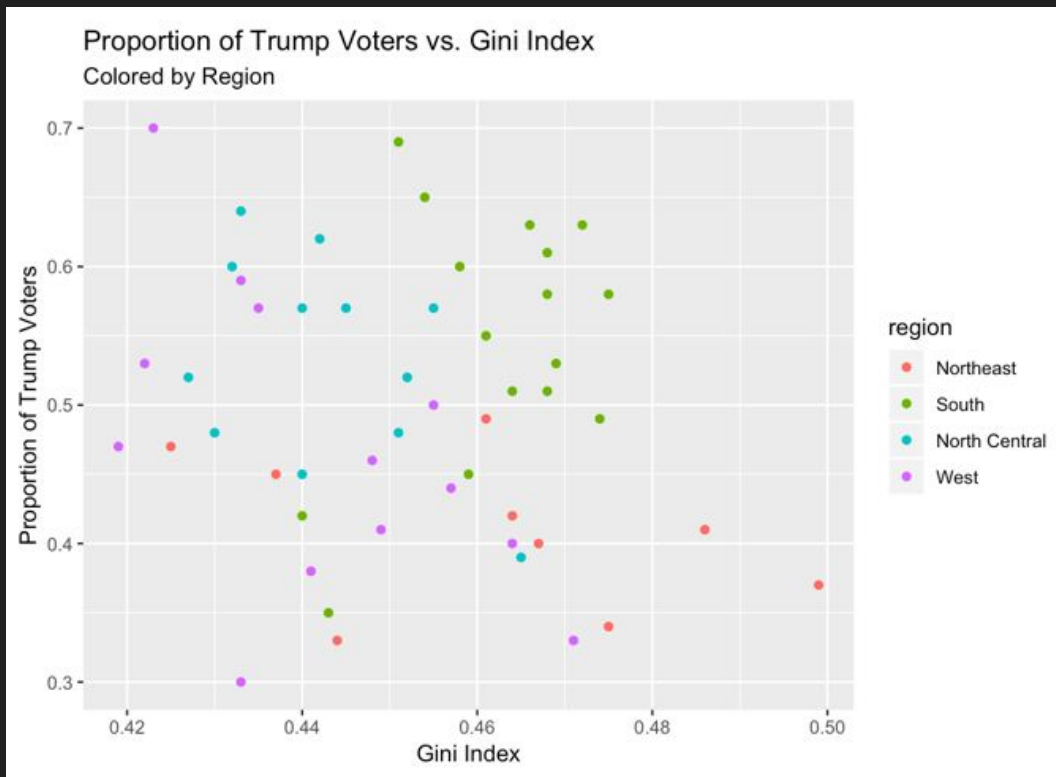
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Relationship between income inequality and  
Trump's election



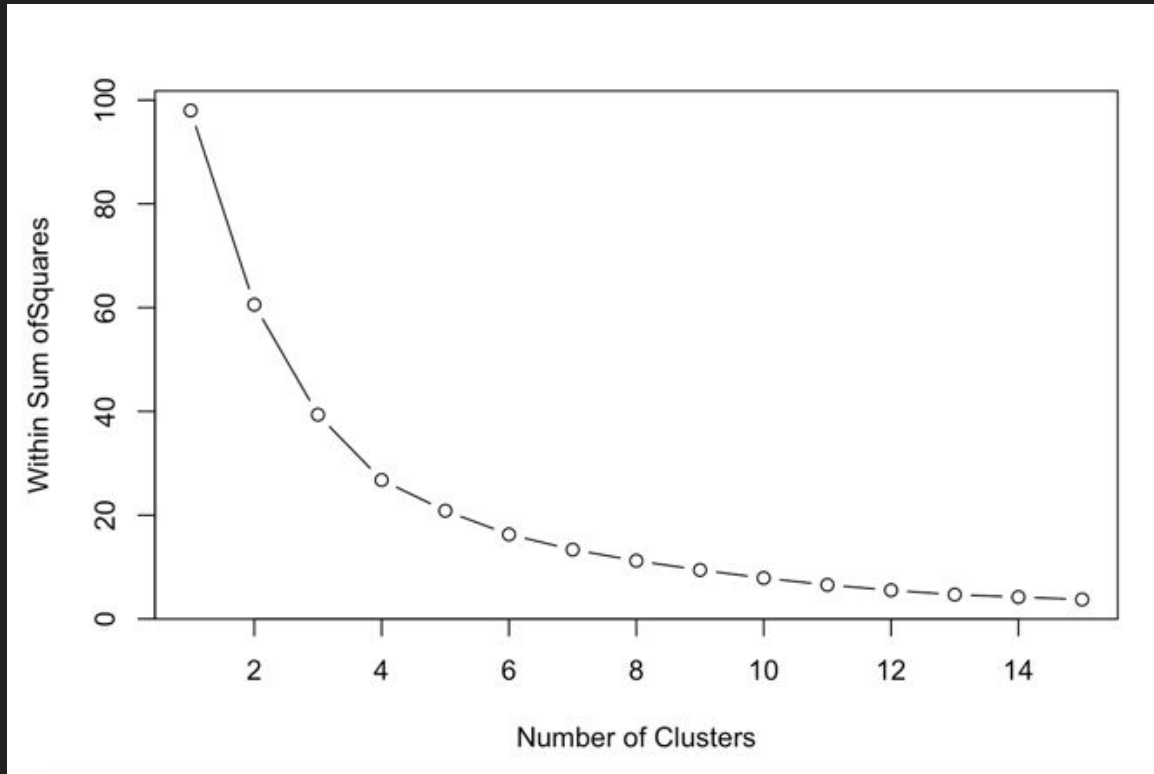
Again, let's first visualise the data

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Colour by geographical region

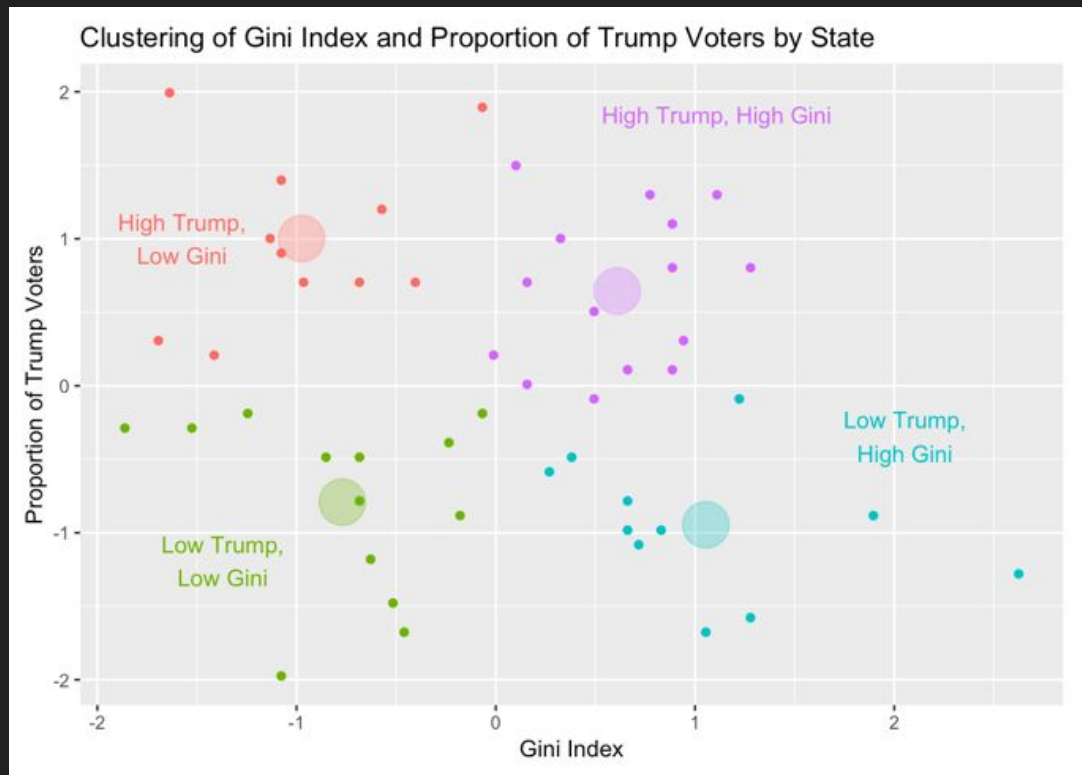
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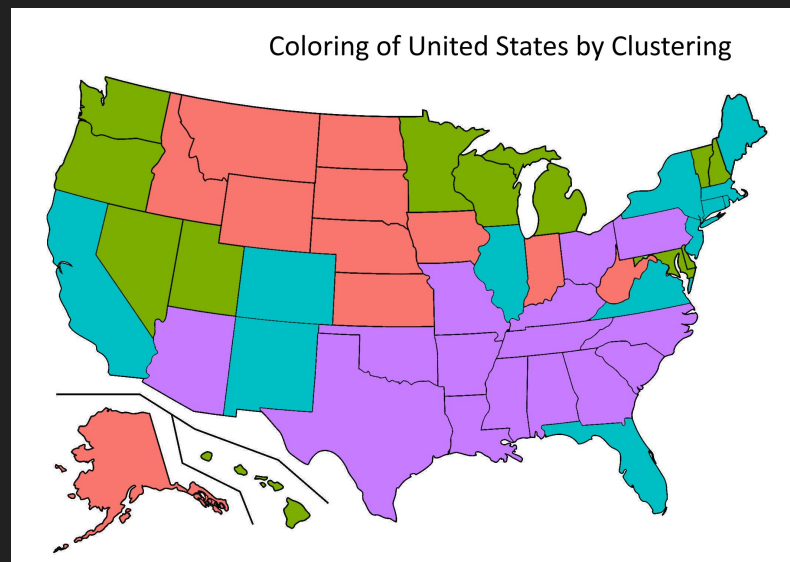
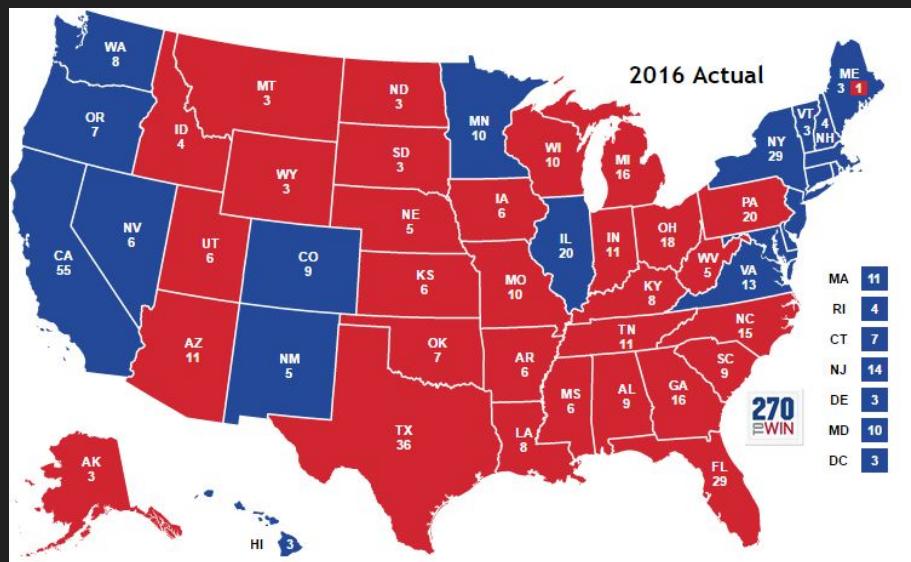


Determine the appropriate number for  $k$

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Map it

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END