Can SAT Math Performance be Correlated to Poverty?

- 3 data sets from cde.ca.gov including frpm, sat scores, and schools for 2014-2015
- Supplementary data from us census on California mean income by zip code

Imported data into DBeaver to run sql scripts for data cleaning

Exported data for analysis in python

Joining Tables

1) sat_scores
2) frpm
3) schools
4) cali_income_zip

(Parent)Sat_scores

Left Join

Frpm

Left Join

Schools

Inner join

Cali_income_zip

finaltable

- CDSCode
- County Name
- District Name
- School Name
- District Type
- School Type
- Low Grade
- High Grade
- Enrollment (K-12)
- Free Meal Count (K-12)
- Percent (%) Eligible Free (K-12)
- FRPM Count (K-12)
- Percent (%) Eligible FRPM (K-12)
- AvgScrRead
- AvgScrMath
- AvgScrWrite
- Zip

```
RMSE: 10.12499
```

OLS Regression Results

Dep. Variable:	AvgScrMath	**R-squared (uncentered):**	0.953
Model:	OLS	**Adj. R-squared (uncentered):**	0.953
Method:	Least Squares	**F-statistic:**	3161.
Date:	Wed, 18 May 2022	**Prob (F-statistic):**	6.48e-207
Time:	11:28:59	**Log-Likelihood:**	-1886.4
No. Observations:	312	**AIC:**	3777.
Df Residuals:	310	**BIC:**	3784.
Df Model:	2		
Covariance Type:	nonrobust		

	coef	std err	t	P>|t|	[0.025	0.975]
FreeLunch	272.7165	14.319	19.046	0.000	244.542	300.891
mean_income	0.0043	0.000	41.015	0.000	0.004	0.004

Omnibus:	8.383	**Durbin-Watson:**	1.200
Prob(Omnibus):	0.015	**Jarque-Bera (JB):**	12.822
Skew:	-0.148	**Prob(JB):**	0.00164
Kurtosis:	3.948	**Cond. No.**	1.96e+05