CALCULATING THE AREA OF GEORGIA COUNTIES

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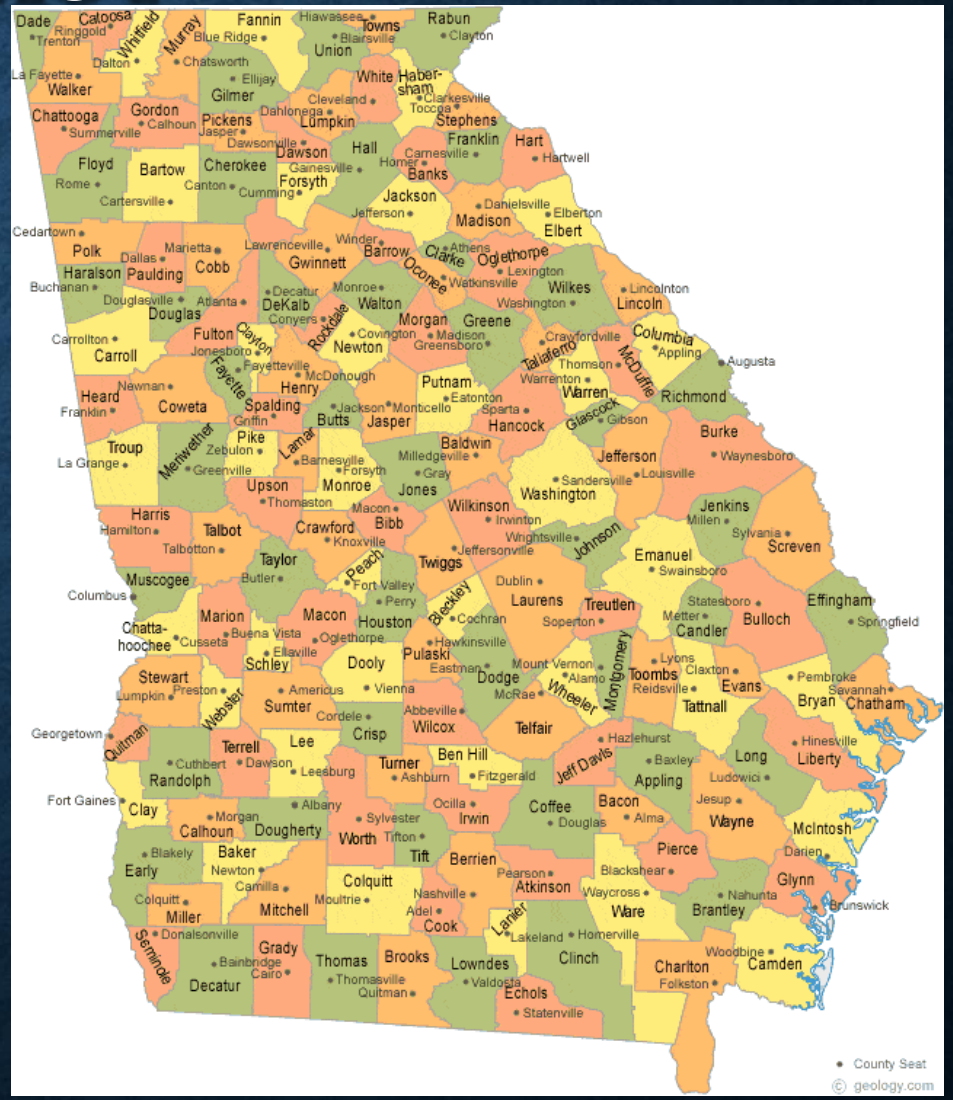
ABSTRACT

- Shapes of counties are irregular
- Calculating area will be dificult



DATA

- Data contains points of each corner for each county

- Units are in meters

co_bounds.py - P:\co_bounds.py (3.7.4)

File Edit Format Run Options Window Help

```
co_bounds = {}
co_bounds["Seminole"] = ((1061676.0486538848, 910670.2892279786), (1061674.90982
co_bounds["Union"] = ((1071870.6986295395, 1392438.6489977555), (1071889.3902683
co_bounds["Ware"] = ((1314886.5322893725, 928043.263351627), (1313641.5973018724
co_bounds["Murray"] = ((1010667.7328009603, 1384983.2217408658), (1010721.706189
co_bounds["Walker"] = ((951104.7862623631, 1333250.327294377), (950561.145054108
co_bounds["Jefferson"] = ((1251409.3625343542, 1223457.5219516205), (1251427.739
co_bounds["Warren"] = ((1255223.6797571492, 1228211.6448720451), (1254563.530499
co_bounds["Fayette"] = ((1061747.762805594, 1229356.4798718605), (1061860.332226
co_bounds["Clayton"] = ((1070906.971418512, 1208148.1768861695), (1070897.602045
co_bounds["Glynn"] = ((1347365.8886209778, 1000421.0168365623), (1347354.4038979
co_bounds["Brantley"] = ((1347948.843591866, 1018564.1627420677), (1347940.11597
co_bounds["Lanier"] = ((1238610.432510208, 950981.8095400337), (1238430.03305123
co_bounds["Echols"] = ((1234369.6300943075, 948160.1780678651), (1234388.9784858
co_bounds["Emanuel"] = ((1269015.2606255952, 1176487.4314671203), (1269026.92952
co_bounds["Burke"] = ((1285184.668864707, 1176249.9141148455), (1285181.96915641
co_bounds["Chatham"] = ((1405145.30069434, 1069685.9131018892), (1398232.7675906
co_bounds["Liberty"] = ((1395386.5742944404, 1069031.0408969785), (1395758.96583
co_bounds["Clarke"] = ((1154991.765379934, 1296435.3219387194), (1155105.4196195
co_bounds["Madison"] = ((1164841.0783326214, 1293081.6630172615), (1164815.01280
co_bounds["Clinch"] = ((1295330.515725956, 926691.1283089784), (1295056.49362671
co_bounds["Charlton"] = ((1315598.1131632116, 977822.6330096126), (1315606.52837
co_bounds["Early"] = ((1051411.7105215376, 949888.7713926734), (1050521.53449413
co_bounds["Johnson"] = ((1250386.0237040804, 1172294.5750711279), (1250488.13851
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co_bounds["Taylor"] = ((1117400.9873505617, 1120534.8584891616), (1117411.481508
co_bounds["Elbert"] = ((1220750.8276917462, 1299125.3515147879), (1220727.597309
co_bounds["Wilkes"] = ((1208778.8520879555, 1295965.2925695805), (1208880.972030
co_bounds["Haralson"] = ((979907.9602233837, 1231244.521923158), (979877.9114899
co_bounds["Coffee"] = ((1264536.3045266836, 1021996.8311327666), (1264529.915625
co_bounds["Berrien"] = ((1213102.4271448085, 1015181.1315310824), (1213076.63977
co_bounds["Columbia"] = ((1283961.9864310056, 1258689.2533632517), (1283889.6010
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co_bounds["Jones"] = ((1167581.4809442307, 1169409.184818026), (1167574.89212901
co_bounds["Twiggs"] = ((1158542.273035208, 1162204.2607970964), (1158601.8332749
co_bounds["Meriwether"] = ((1066345.4428238054, 1154662.6256239126), (1066346.00
co_bounds["Morgan"] = ((1133148.2601225092, 1235584.7457317496), (1133147.793879
```
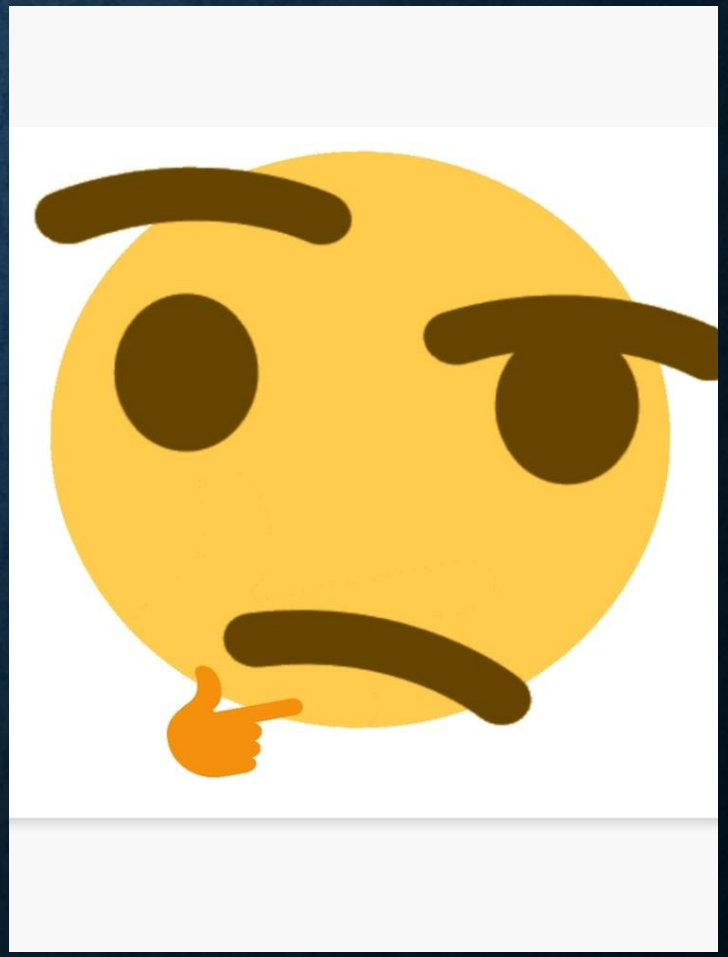

OBJECTIVES

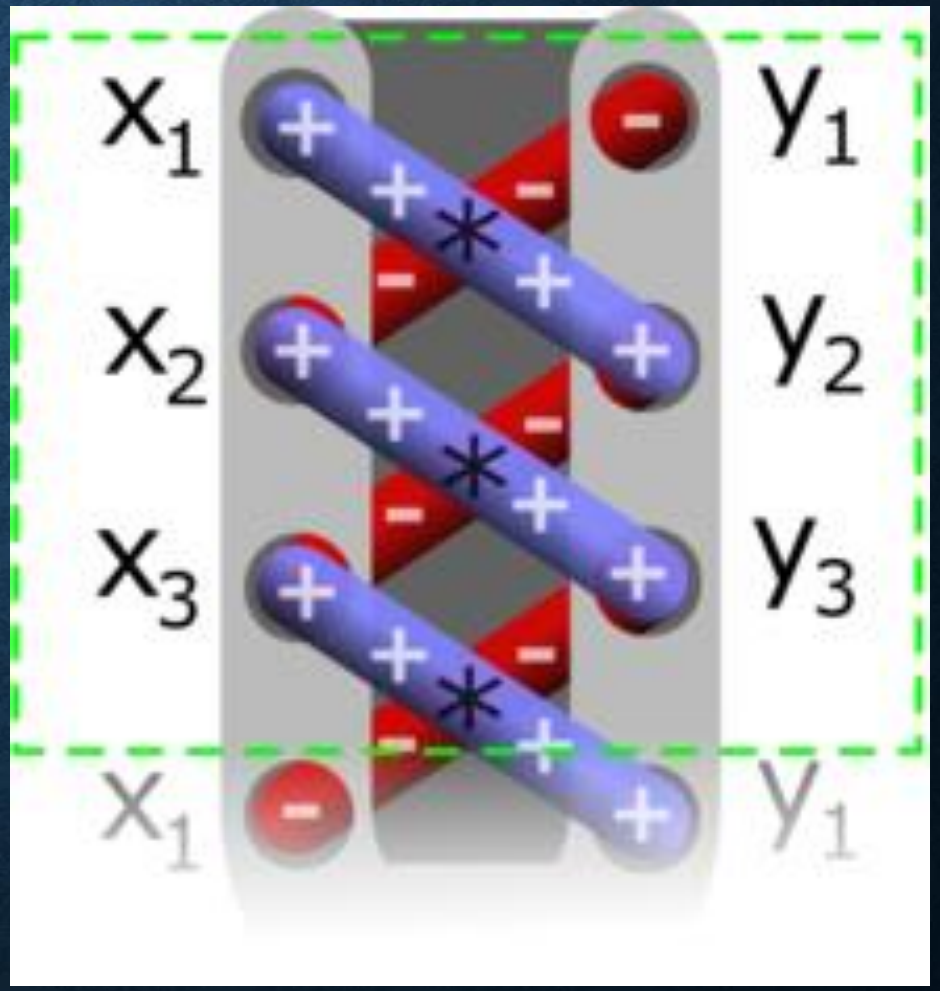
- Calculate the area of select counties in Georgia
- Find an appropriate algorithm to perform this



METHODS

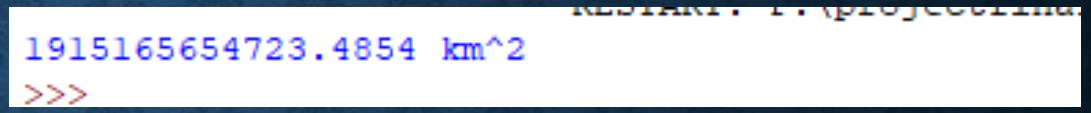
- Shoelace algorithm

- Calculates the area of irregular shapes



RESULTS

- Created algorithm to calculate the area of counties



- Formatted in kilometers squared

CONCLUSIONS

- Through Shoelace algorithm, it is possible to find the area of Georgia counties

Code can only print the area of one county at a time

REFERENCES

- By. “The Shoelace Algorithm.” 101 Computing, 9 Mar. 2019, www.101computing.net/the-shoelace-algorithm/.
- “Shoelace Formula.” Wikipedia, Wikimedia Foundation, 25 Nov. 2019, en.wikipedia.org/wiki/Shoelace_formula.