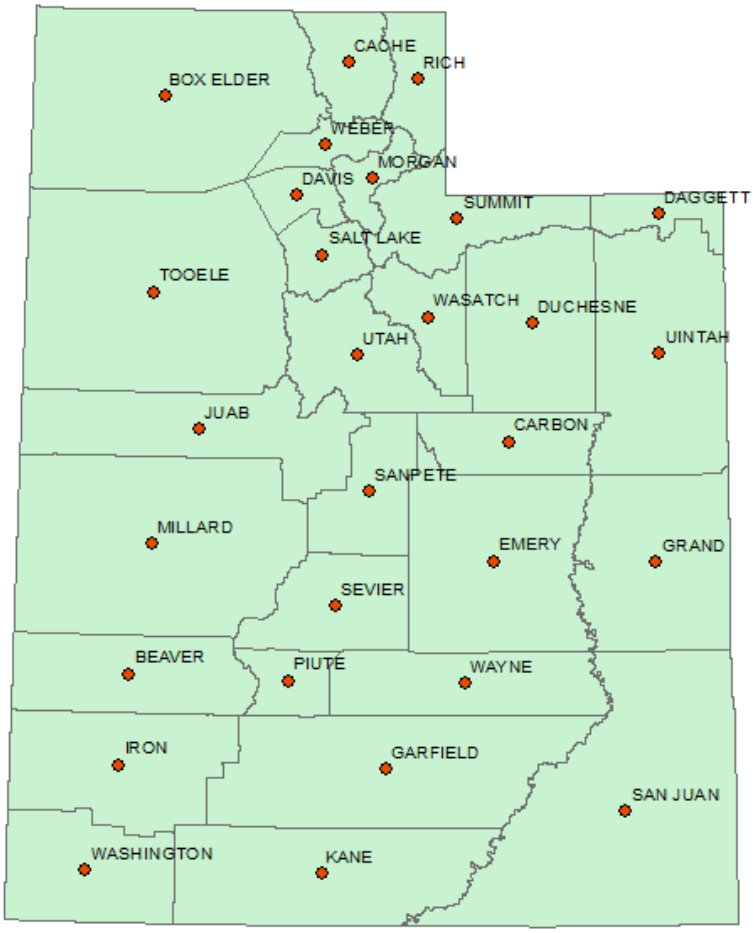
GEOG 1180 Introduction to Geo-Programming

Assignment 5 Calculating distances between Utah counties



In this assignment, you will calculate distances between counties in Utah. In the given Python script "Assignment5.py", you are given the coordinate of the centroid (a measure of central tendency) of Salt Lake County and a string variable named "str_counties", which contains the name and centroid coordinates of all other counties in Utah. The format is: "county name, x coordinate, y coordinate". Records are separated using ";". The name and coordinates are separated using ",". The centroid coordinates are in meters, and you will calculate the Euclidean distance between two counties directly.

Here are the requirements for this assignment:

1) Calculate the Euclidean distance between Salt Lake County and the other counties, and print out the county name and distances. The format for each line should be as follows: "The distance between SALT LAKE and NAME OF COUNTY is XXXX meters". (Hint: follow Exercise 5-2 to extract county name and coordinates from "str_counties" and use the Euclidean distance formula to calculate the distance between Salt Lake County and the other counties.)

2) Find the minimum and maximum distance between Salt Lake County and the other counties and print out the county names as follows: “Maximum distance is XXX meters, and county is NAME OF COUNTY”. (Hint: follow Exercise 5-2 to sort the list of distances and names to get the minimum and maximum distance).
3) Include a complete header, and comments where appropriate.

Please submit a python script named “Assignment5.py” in Canvas.