

GEOG 786 Geographic Information Systems

Spring 2021

Assignment 3 Download and merge shapefiles

50 points

Please do the lab first before you do the assignment. In this assignment, you need to use Python to download some shapefiles from Census, unzip them, and merge them into one shapefile. Specifically, you need to download three files (tl_2020_46003_addrfeat.zip, tl_2020_46005_addrfeat.zip, tl_2020_46007_addrfeat.zip) from Census Tiger address range feature data folder (46 means South Dakota) and merge them into one shapefile:

<https://www2.census.gov/geo/tiger/TIGER2020/ADDRFEAT/>

And below are the requirements for this assignment:

- 1) Write a function named `downloadData()` to download the three files (20 points)
- 2) Write a function named `unzipFile()` to unzip the three zip files. (20 points)
- 3) Write a function named `mergeFiles()` to merge the three shapefiles into one shapefile named `merged.shp`
- 4) Please use `assignment4.py` as the name of your Python script. All functions should be included in this file and called.

Here is a list of the items you need to submit in D2L:

- 1) A python script named "assignment3.py".
- 2) The final merged shapefile (`merged.shp`).

(Please compress all the items and upload the zip file in D2L.)