Geography 378: Introduction to Geocomputing
Lab 6: OGR and Python

Assigned: 11/15
Due: 11/22
15 points

Hand-in

- Please collect your answers in a single .py file called **lab6_yourname.py**.
- Submit the file to the assignment folder called "Lab 6".
- Include appropriate comments to explain what each line or block of code accomplishes. **You must comment your code for full credit.**

Background

Lab 5 provided experience using GDAL with Python. Now we turn to the OGR library, which exposes methods for vector (feature) processing. Once again you should carefully review the lecture notes and examples---the tasks below build heavily on them.

In this exercise you will read two Shapefiles: one is a polygon layer containing land parcels in the city of Santa Monica, California, and another is a linestring layer containing the path of a hypothetical proposed power line (created for this exercise). Both files are in the same coordinate system having ground units of feet.

Lab Task

1. (5 pts) Using OGR, write a Python script to read PowerLine.shp and calculate the length of the power line in miles and print out that value. Prove that your calculation gives the same answer as the geometry length() method. [Hint: if your program works properly, the answer will be 2.17 miles.]

2. (10 pts) Extend the program in task 2 so that it also opens Parcels.shp.
    a. print out the attribute names and attribute data types of the layer. (Note that this question does not ask for attribute values of any parcel.)
    b. print out the owner's address ("SITUSADDR") and the area of every parcel **crossed by the power line**.