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Geoscripting Project Description

**Objective**

The objective of this project is to create a package that connect property parcel polygons to a street lines in preparation for network analysis.

**Description/Methodology**

When doing network analysis it is necessary to connect points (which serve as origins and destinations) to lines (which serve as conduits such as streets and sidewalks). Following are the logical steps needed to accomplish this if you start out with parcel polygons and street lines.

1. Generate centroid points (CentroidPoints) from the ParcelPolygons. Preserve the original ParcelPolygons attribute data in the new CentroidPoints.
2. Generate a new point dataset (LinePoints) with points on top of the line dataset (OrigLines) which are closest to each original point. The number of LinePoints will equal the number of CentroidPoints.
3. Create new lines (ConnectLines) that connect each LinePoint to their corresponding CentroidPoints. This will be done according to either common attributes or to proximity.
4. Create a new line dataset (LineNetwork). Add OrigLines and ConnectLines.
5. Split all lines in LineNetwork by their intersection (necessary for network analysis).

**Result**

The result will be a parcel centroid shapefile and a network ready line shapefile that includes the new connections to the ParcelCentroids.

**Demo Dataset**

The demo dataset will be a few blocks of streets centerlines and parcels in the DU area of Denver. This data is available from the Denver Open Data Catalog.