GEOG 432/832: Programming, Scripting, and Automation for GIS

Unit 06.02: Cursors, cursors, cursors

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Today's schedule

- Open discussion
- Update cursors
- Introduce lab 3
- For next class

Open discussion

Thoughts on lab 2?

Update cursors

Let's pose a problem:

Given our dataset, how would we calculate the population density (people/unit area)?

To the whiteboard!

One way of accomplishing our tasks

Break it down - what does the code do and why?

```
arcpy.management.AddField(fc, "pop_den", "Double")

with arcpy.da.UpdateCursor(fc, ["ALAND10", "TOTAL", "pop_den"]) as cursor:
    for row in cursor:
        row[2] = row[0] / row[1]
        cursor.updateRow(row) # You need to tell the cursor to update the row
```

What happened?

We can delete records too

First, let's make a copy we can "play" with

```
arcpy.management.CopyFeatures(fc, "mycopy_to_delete_later.shp")
```

Then, let's selectively delete rows <- what does the below code do?

```
with arcpy.da.UpdateCursor("mycopy_to_delete_later.shp", ["NAME10"]) as cursor:
    for row in cursor:
        if(row[0] == "Lancaster"):
            cursor.deleteRow()
cursor.reset()
```

Did it work? Check it in your map

(if the view didn't update, click the "refresh" button in the bottom-right)

Let's do one more

Breakdown the code:

```
with arcpy.da.UpdateCursor("mycopy_to_delete_later.shp", ["NAME10", "Total"]) as cursor:
    for row in cursor:
        if(row[1] < 20000):
            cursor.deleteRow()
cursor.reset()
```

Paired exercise:

1. Make another copy of our original dataset
2. only *retain* records where there are *more Females in their 50s than Females in their 20s*
3. Print the county names

Lab 3

For next class

- Read Chapter 8 this week
- Read Chapter 9 for next week