

# Working with Tables

GIS II: Data Management

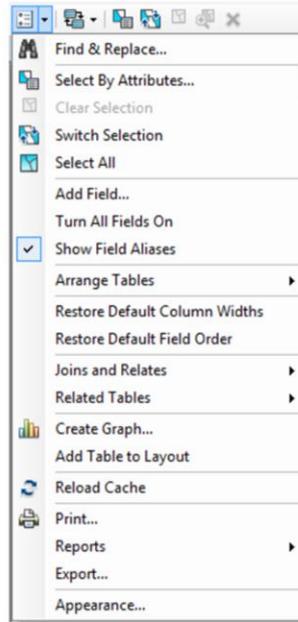




## Learning Objectives

- **Learn how to add and populate new attribute fields**
- **Explore the Field Calculator**
- **Work in an edit session**

Click on the table options button to get...





# Arranging Tables

## Horizontal Tab Group

## Vertical Tab Group

Table: Durham\_Bookends\_July14

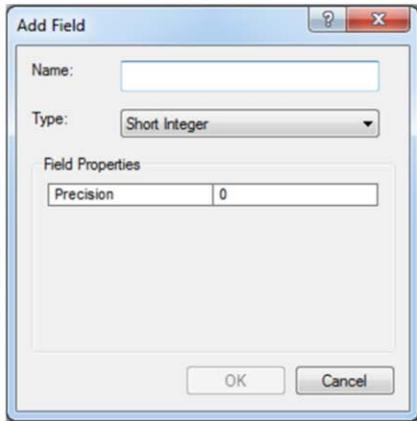
FID	Shape	OBJECTID	MIXEDNAME	NAME	NEWFIELD	SORTNAME
1	Polygon	1	Albright Community	ALBRIGHT COMMUNITY	1 - Albright Community	001 - Albright Community
1	Polygon	15	Trinity Heights	TRINITY HEIGHTS	111 - Trinity Heights	111 - Trinity Heights
2	Polygon	16	Trinity Park	TRINITY PARK	112 - Trinity Park	112 - Trinity Park
3	Polygon	18	Tuscaloosa-Lakewood	TUSCALOOSA-LAKEWOOD	114 - Tuscaloosa-Lakewood	114 - Tuscaloosa-Lakewood
3	Polygon	25	Waldborn	WALDBORN	120 - Waldborn	120 - Waldborn
3	Polygon	27	Watts Hospital-Hillendale	WATTS HOSPITAL-HILLENDALE	122 - Watts Hospital-Hillendale	122 - Watts Hospital-Hillendale
4	Polygon	31	West End	WEST END NEIGHBORHOOD	126 - West End Neighborhood	126 - West End Neighborhood
7	Polygon	42	Crest Street Community	CREST STREET COMMUNITY	131 - Crest Street Community	011 - Crest Street Community
8	Polygon	52	Duke Park	DUKE PARK	28 - Duke Park	028 - Duke Park
8	Polygon	101	East Durham	EAST DURHAM	29 - East Durham	029 - East Durham
8	Polygon	24	East Park	EAST PARK	28 - East Park	028 - East Park

Durham\_Bookends\_July14

FID	Shape	Status	Score	Match_type	Match_addr	Date	X	Y	Addr_name	ABC_Street
1	Point	M	100	A	514 N Mangum St, Durham, NC, 27701	8	-78.02704	35.99524	Address	514 N Mangum St
1	Point	M	100	A	108 N Dwyer St, Durham, NC, 27701	8	-78.01941	35.99201	Address	108 N Dwyer St
1	Point	M	100	A	701 S Adams Ave, Durham, NC, 27701	1	-78.01077	35.98010	Address	701 S Adams Ave
3	Point	M	100	A	410 Liberty St, Durham, NC, 27701	8	-78.04087	35.98346	Address	410 Liberty St
4	Point	M	100	M	1010 E Shaw St, Durham, NC, 27701	8	-78.04087	35.98346	Address	1010 E Shaw St
3	Point	M	100	A	1415 Holloway St, Durham, NC, 27701	1	-78.07988	35.98431	Address	1415 Holloway St
6	Point	M	100	A	214 Broadway St, Durham, NC, 27701	8	-78.04813	35.98996	Address	214 Broadway St
7	Point	M	100	A	1204 Lynn Rd, Durham, NC, 27701	8	-78.04813	35.98996	Address	1204 Lynn Rd
8	Point	M	100	A	802 Broad St, Durham, NC, 27701	8	-78.04813	35.98996	Address	802 Broad St
9	Point	M	100	A	1016 N Roxboro Rd, Durham, NC, 27712	8	-78.01098	36.01241	Address	1016 N Roxboro Rd

Durham\_Bookends\_July14

FID	Shape	OBJECTID	MIXEDNAME	NAME	FID	Shape	Status	Score	Match_type
1	Polygon	1	Albright Community	ALBRIGHT COMMUNITY	1	Point	M	100	A
1	Polygon	15	Trinity Heights	TRINITY HEIGHTS	1	Point	M	100	A
2	Polygon	16	Trinity Park	TRINITY PARK	2	Point	M	100	A
3	Polygon	18	Tuscaloosa-Lakewood	TUSCALOOSA-LAKEWOOD	3	Point	M	100	A
3	Polygon	25	Waldborn	WALDBORN	4	Point	M	100	M
3	Polygon	27	Watts Hospital-Hillendale	WATTS HOSPITAL-HILLENDALE	5	Point	M	100	A
4	Polygon	31	West End	WEST END NEIGHBORHOOD	6	Point	M	100	A
7	Polygon	42	Crest Street Community	CREST STREET COMMUNITY	7	Point	M	100	A
8	Polygon	52	Duke Park	DUKE PARK	8	Point	M	100	A
8	Polygon	101	East Durham	EAST DURHAM	9	Point	M	100	A
8	Polygon	24	East Park	EAST END	10	Point	M	100	A
8	Polygon	28	Forest Hills	FOREST HILLS	11	Point	M	100	A
12	Polygon	83	Hillside Ave / St Teresa	HILLSIDE AVE / ST TERESA	12	Point	M	100	M
13	Polygon	97	Lakewood Park	LAKEWOOD PARK	13	Point	M	100	A
14	Polygon	100	Lynn Park	LYNN PARK	14	Point	M	100	A
15	Polygon	110	Morhead Hill	MORHEAD HILL	15	Point	M	100	A
16	Polygon	116	Old Five Points	OLD FIVE POINTS	16	Point	M	100	A
17	Polygon	117	Old North Durham	OLD NORTH DURHAM	17	Point	M	100	A
18	Polygon	118	Old West Durham	OLD WEST DURHAM	18	Point	M	100	A
19	Polygon	121	Plum Avenue	PLUM AVENUE	19	Point	M	100	M
20	Polygon	125	Plum Street	PLUM STREET	20	Point	M	100	A
21	Polygon	0	NECCU Area		21	Point	M	100	A

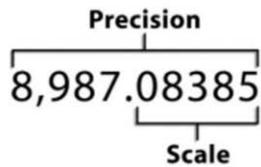


### Data Types:

- Numeric
  - Short Integer – -32k to 32k
  - Long Integer – -2 billion to 2 billion
  - Float – 6 digits of precision
  - Double – 15 digits of precision
- Text
- Date

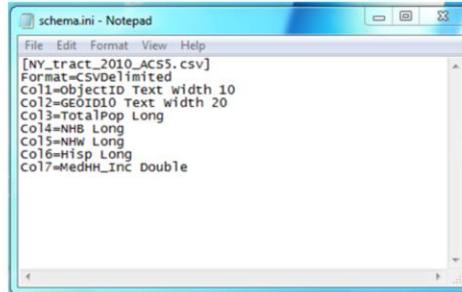
### Field Properties:

- Precision – field length
- Scale – decimal places
- Length – field length (text)



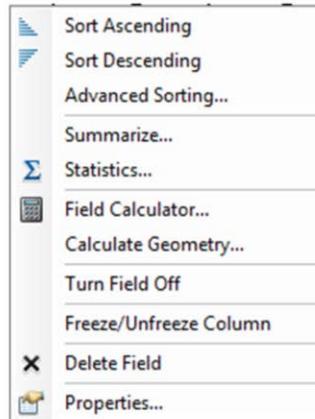
Leaving these options as 0 will not create any restrictions – this is the default

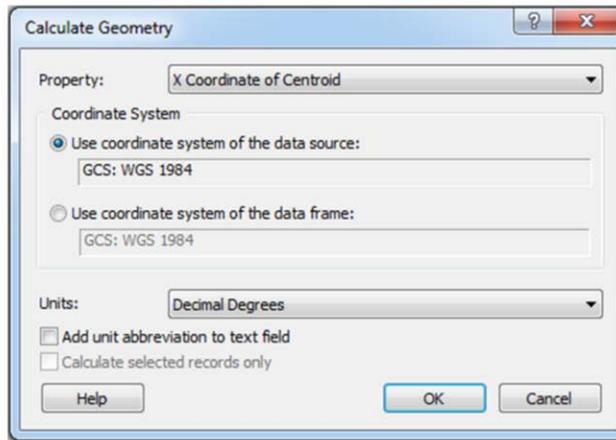
- Authentic Microsoft Text file Driver
- Help to specify field type in CSV files
- Can work across software
- Can serve as Metadata
- Change type without re-populate field



```
schema.ini - Notepad
File Edit Format View Help
[NY_tract_2010_ACS5.csv]
Format=CSVdelimited
Col1=ObjectID Text width 10
Col2=GE0ID10 Text width 20
Col3=TotalPop Long
Col4=NHB Long
Col5=NHW Long
Col6=Hisp Long
Col7=MedHH_Inc Double
```

Right click on a column name to get...

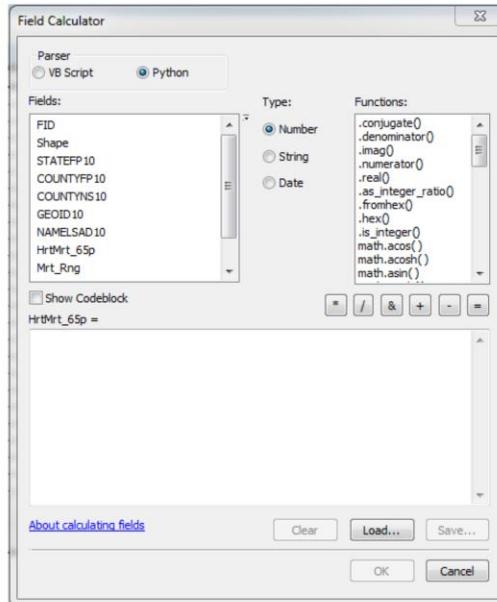




The screenshot shows a dialog box titled "Calculate Geometry". It has a "Property:" dropdown menu set to "X Coordinate of Centroid". Below this is a "Coordinate System" section with two radio buttons: "Use coordinate system of the data source:" (selected) and "Use coordinate system of the data frame:". Both radio buttons have a text field containing "GCS: WGS 1984". Underneath is a "Units:" dropdown menu set to "Decimal Degrees". At the bottom, there are three checkboxes: "Add unit abbreviation to text field" (unchecked), "Calculate selected records only" (unchecked), and "Help" (checked). The dialog box has "OK" and "Cancel" buttons at the bottom right.

- Area (polygon)
- Perimeter (polygon)
- X/Y Coordinate of Centroid (polygon/point)
- Length (line)
- X/Y Coordinate of line start/end (line)

Use the Field Calculator to add data to fields and perform text or numerical operations



Numbers and characters are different in computer.  
e.g. 0 ≠ '0', 5 ≠ '5'

- Concatenate Text
- Convert Types
- Substring
- Split Text
- Convert Case

`'Python' + ' ' + 'Cheat' = 'Python Cheat'`

`str(50) = '50', str(11.5) = '11.5'`

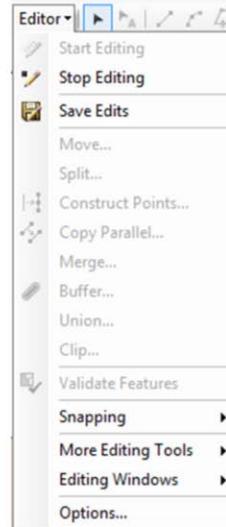
`"Python"[2:4] = "th"`

`"Python_Cheat".split("_")[0] = "Python"`

`"Python".lower() = "python"`



**The Editor Toolbar allows for manipulation of data fields and shapefile geometry**



- In an edit session you can...
  - Manually manipulate data cells (type, delete, etc)
  - Create new features (polygons, points, lines) in existing shapefiles
  - Modify the geometry of existing features in a shapefile
  - Use the Replace function of Find/Replace
- In an edit session, you cannot create a new field
- Don't mess with geometries unless it is absolutely necessary!!!