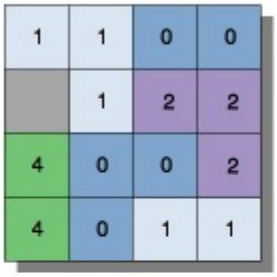
整理这些东西仅仅是为了方便大家交流，很多东西也是来自网络，为了尊重他人劳动成果，我尽量给出原文链接，若有遗漏，请来信说明。感谢思忘，福州以及 GIS 之家的支持。

在很多的时候 ArcMap 的 Help 会给我们很多信息的，大家在学习 ArcGis 的时候不防多点下，也许你就会有意想不到的收获，只是很多的时候有人不喜欢看英文帮助……

比如：Tabulate Area 这个功能

Calculates cross-tabulated areas between two datasets.

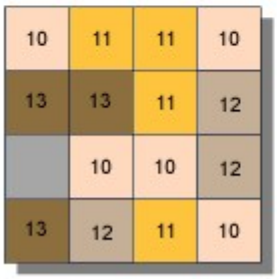
Illustration



INGRID1

=

VALUE	VALUE_10	VALUE_11	VALUE_12	VALUE_13
0	3	1	1	0
1	2	2	0	1
2	0	1	2	0
4	0	0	0	1



INGRID2

什么意思呢？

就是第一个表的 Value 变成 Value10 Value11 Value12 Value13 的值的个数。

再看一个：

Sorts and summarizes the input table fields, based on the selected pivot field and value field, in the
to reduce redundancy.

Illustration

Input Table

EntID	LinkType	TableID	LinkValue
1	A	X1	20
1	A	X2	21
2	A	X1	23
2	A	X2	29
2	B	X1	80
2	B	X2	77

Input Fields　　Pivot Field　　Value Field

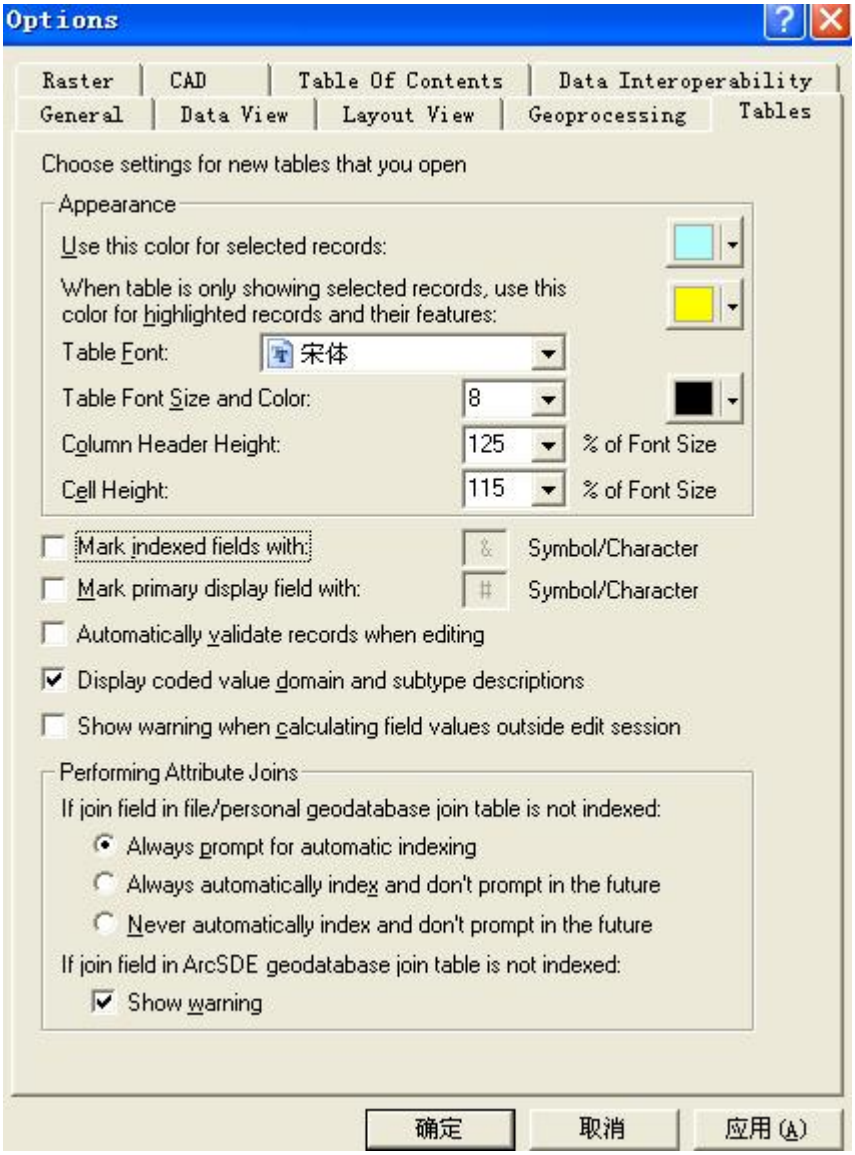
Output Table

EntID	LinkType	X1	X2
1	A	20	21
2	A	23	29
2	B	80	77

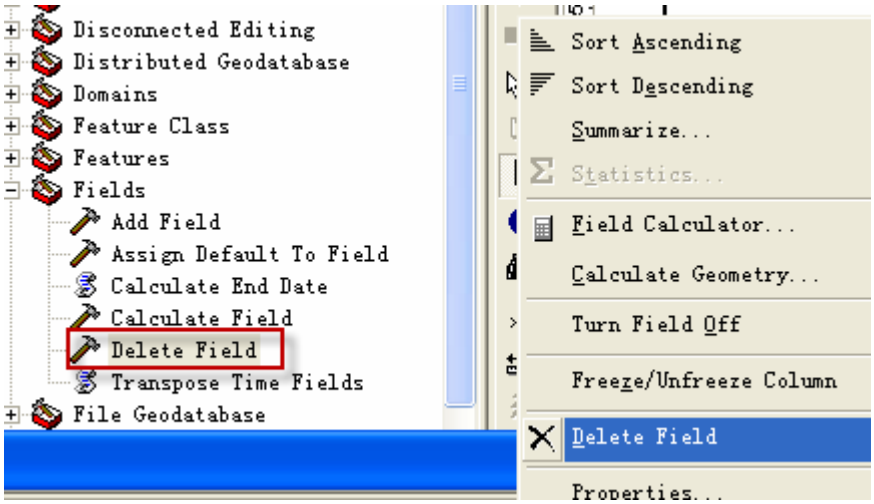
第一部分（字段操作）

相信很多人是在数据库原理这门课程中接触到这个词语的，我无法给字段下一个很具体的定义，用我的话来说，在一张表中，标识一列的那个名称就是字段，也可以这样说字段就是一个变量。现在将一些常用的操作字段的方法介绍一些。

细心的人会发现在字段中常常见到 shp，shp*这两个，在这里我简要说明下，shp 这个字段很特殊我们删不掉，你可以在这个字段上点右键，看一下那个 delete 是不是灰色的，这个字段存储了空间信息也是这个字段联系了这张表和那些显示在图层上的数据，而 shp*这个是一个索引字段，而这个*我们可以自己定义的，看下图的 Mark indexed fields with 行



1、添加（删除）单字段



在 catalog 中也可完成

2、计算面积，长度，中心点

To calculate area:

```
Dim Output as double
Dim pArea as Iarea
Set pArea = [shape]
Output = pArea.area
```

To calculate length or perimeter (depending on whether the features are lines or polygons):

```
Dim Output as double
Dim pCurve as ICurve
Set pCurve = [shape]
Output = pCurve.Length
```

To add the x coordinate of points:

```
Dim Output As Double
Dim pPoint As IPoint
Set pPoint = [Shape]
Output = pPoint.X
```

To add the x coordinate of polygon centroids:

```
Dim Output As Double
Dim pArea As IArea
Set pArea = [Shape]

Output = pArea.Centroid.X
```

（以上来自 Help）

新建立一个字段，在字段上有一个 caculator geometry 在点一下，会看到什么……

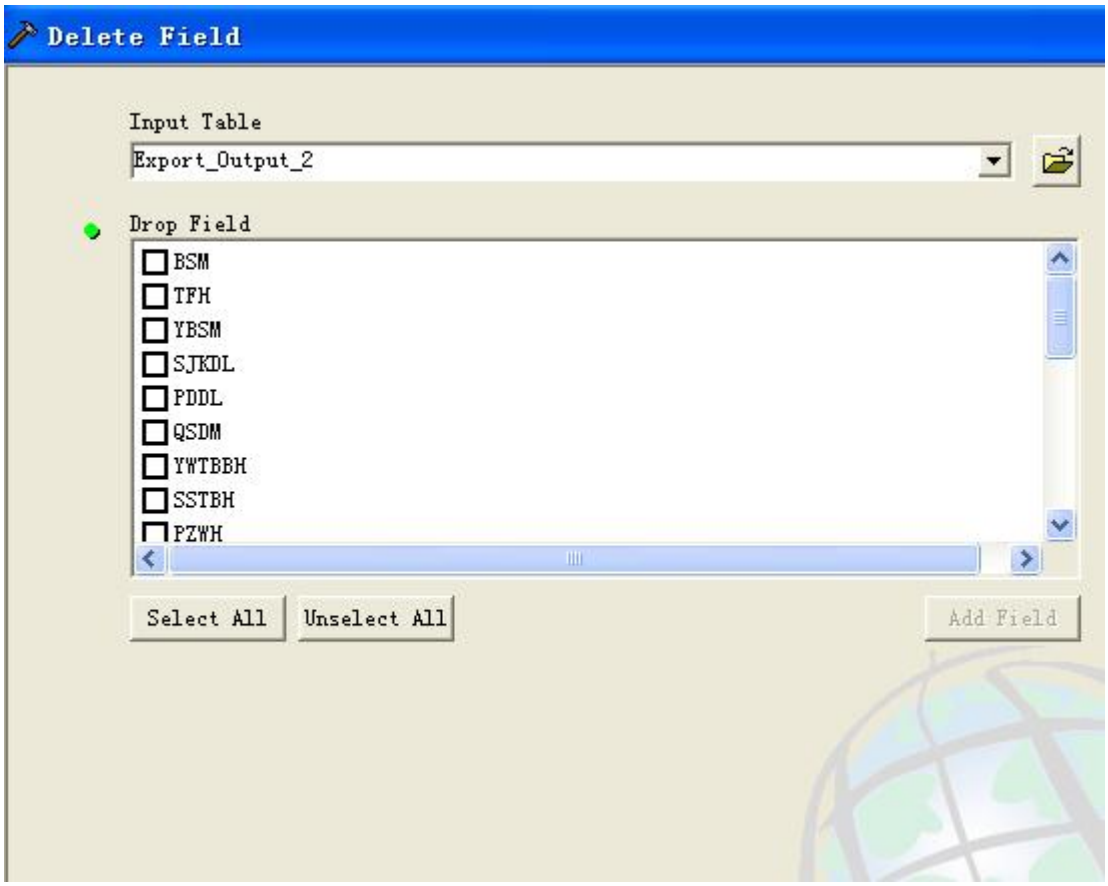
导入到 GDB 中，又会看到什么……

utility 下面有一个工具也，看到了吗？

3、添加（删除）多字段

有些懒人想一次添加很多字段，懒人有懒人的办法，我常常和周围的同学开玩笑说很多懒人用自己的大脑在改造这个世界

删除多个字段，arctoolbox 中可以实现



用代码实现

```
Public Sub DeletFields()

Dim pMdc As IMxDocument

Set pMdc = ThisDocument

Dim pLayer As ILayer

Set pLayer = pMdc.SelectedLayer

Dim pFeaturelayer As IFeatureLayer

Set pFeaturelayer = pLayer

Dim pFeatureClass As IFeatureClass
```

```
Set pFeatureClass = pFeaturelayer.FeatureClass

pFeatureClass.DeleteField pFeatureClass.Fields.Field(pFeatureClass.FindField("删除字段的名字"))
```

在这里写你想要删除的，也就是复制和修改上面这句话

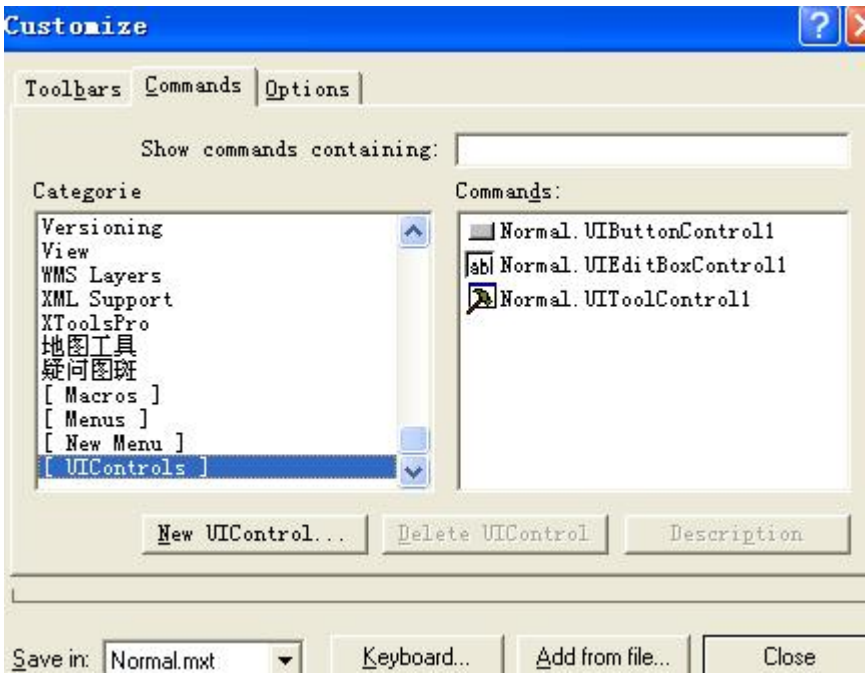
```
End Sub
```

关于这些是什么意思我们后面有专门说明那个，怎么啦 一头雾水，不要怕，慢慢来，我为了写这些也看了不少书呢，就连被我遗忘的 VB 都给折腾出来了。

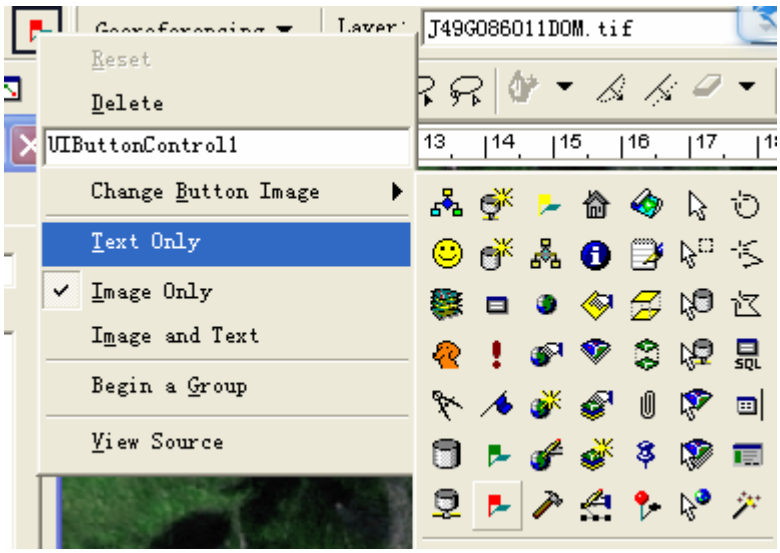
添加多字段

```
Public Sub AddField()

Dim pMxdoc As IMxDocument

Set pMxdoc = ThisDocument

    Dim pMap As IMap

Dim pFeatureLayer As IFeatureLayer

Set pFeatureLayer = pMxdoc.SelectedLayer

Dim pMyField As IFieldEdit

（说明，代码没有优化）

Set pMyField = New Field

    With pMyField

    .Name = "MyField"

.Type = esriFieldTypeString

    .Length = 16

    End With
```

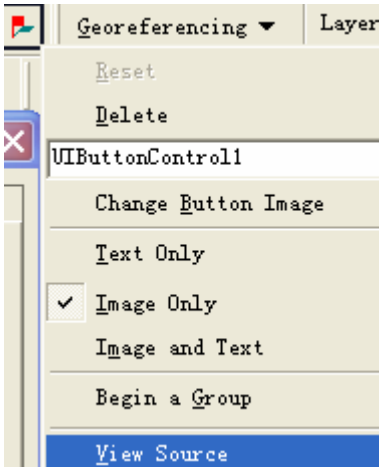
喂，你这个人怎么这样，净弄些这玩意儿，什么意思，你急什么呀，我不是说了我后面会介绍的，现在先说这些怎么用。



新建一个 UIControl，然后拖到上面的工具栏您认为比较合适的地方



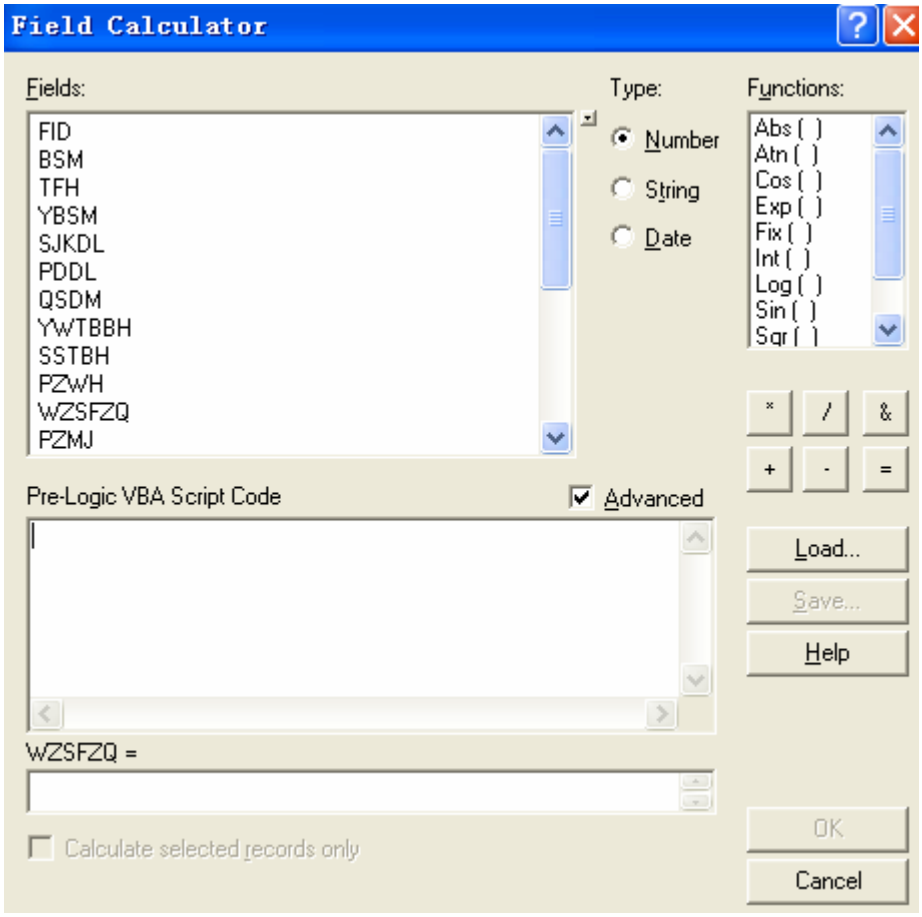
可以改换图标的，点

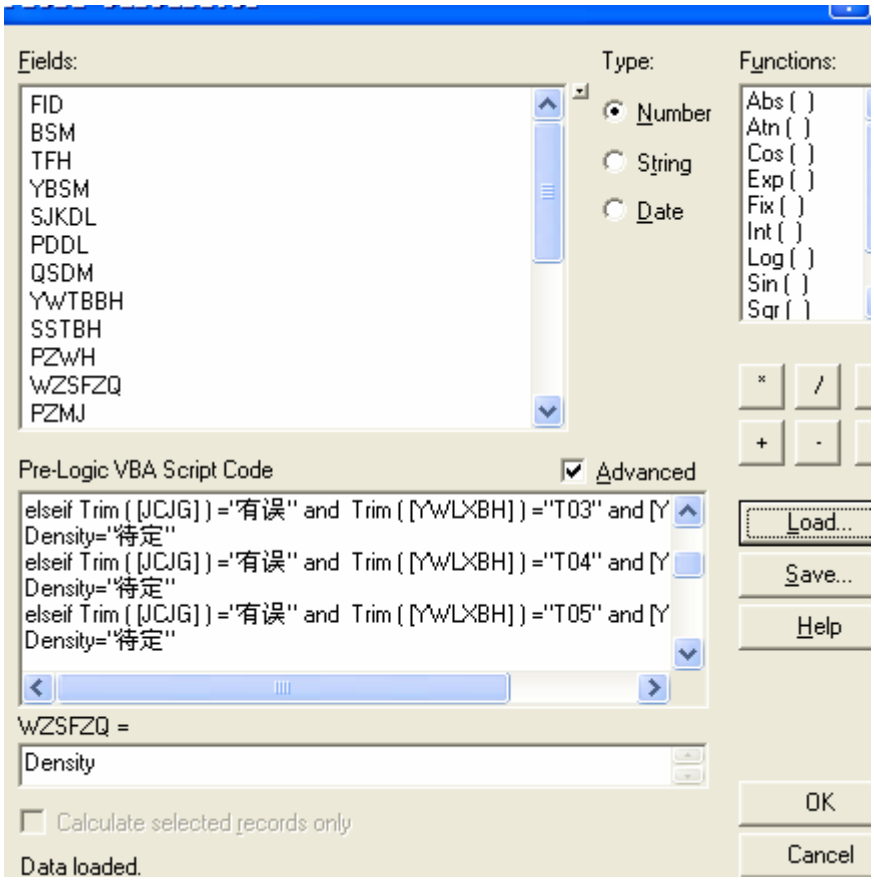



```
Private Sub UIButtonControl1_Click()
'AddField
DeletFields

End Sub
```

```
Public Sub DeletFields()
Dim pMdc As IMxDocument

Set pMdc = ThisDocument

Dim pLayer As ILayer

Set pLayer = pMdc.SelectedLayer

Dim pFeaturelayer As IFeatureLayer

Set pFeaturelayer = pLayer
Dim pFeatureClass As IFeatureClass

Set pFeatureClass = pFeaturelayer.FeatureClass
'Dim pField As IField

Set pField = pFeatureClass.Fields.Field(pFeatureClass.FindField("删除字段的名字"))
pFeatureClass.DeleteField pField



End Sub
```

4、~~栅格~~计算器这个东西功能还真 TMD 强大，以前认为这就是计算用的，没错，但是又一次一个任务要我选择十几次，计算十几次，我偷懒的毛病犯了，点一下 Advance





就这样，我节省了很多时间呢，呵呵……

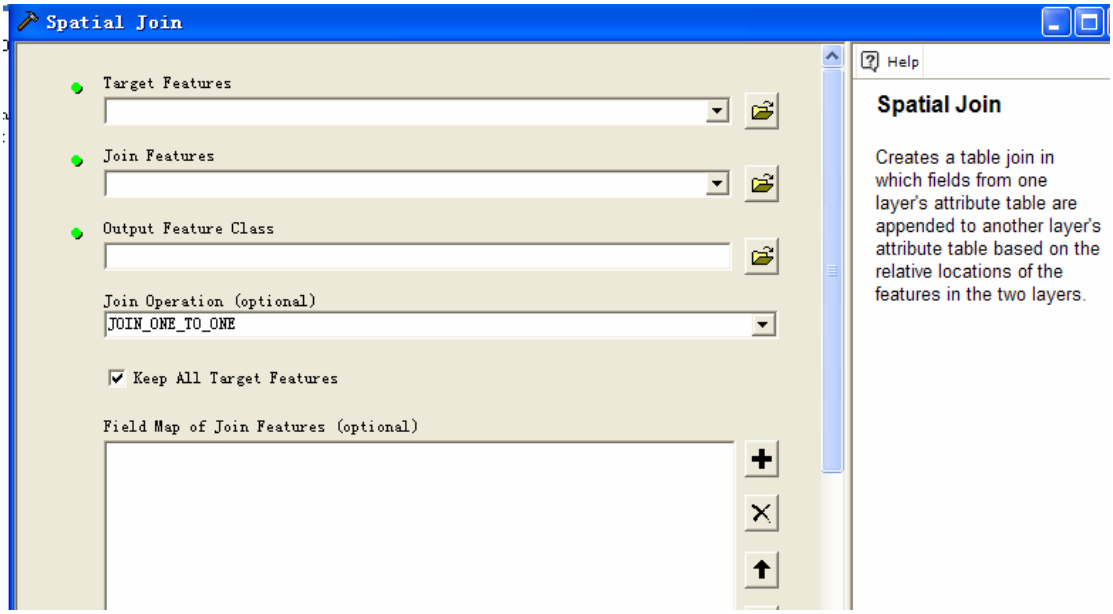
但是有些人又想一次对多个字段计算，我的妈呀，这个人比我还懒，希望懒人有懒福，让上帝祝福他……

```
Dim pCur As ICursor
Dim pCal As ICalculator
Set pCal = New Calculator
Set pCur = pFeaturelayer.FeatureClass.Update(Nothing, True)
With pCal
 Set .Cursor = pCur
 .Expression = "[专检地类]"
 .Field = "PDDL"
 End With
 pCal.Calculate

 Dim pCur1 As ICursor
Dim pCal1 As ICalculator
Set pCal1 = New Calculator
Set pCur1 = pFeaturelayer.FeatureClass.Update(Nothing, True)
With pCal1
 Set .Cursor = pCur1
 .Expression = "[专检结果]"
 .Field = "JCJG"
 End With
 pCal1.Calculate
```

上面只截取了部分，前面那几句都很简单的。

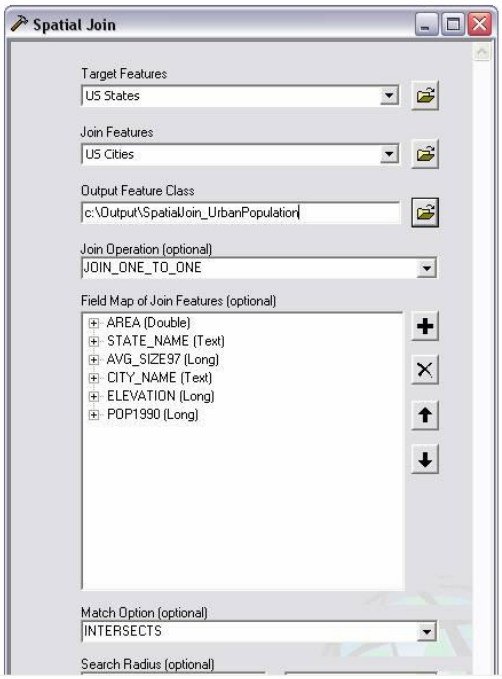
5、Join&link&spatial join

如果一个字段想要的值在另外一个和这个字段所在的表有相关关系的话，那这几个功能可有不小的作用，其实在数据库原理这门课程中，我们也会看到关系连接这些，我们不详细介绍前面两个，只有后面的，从字面意思来看，说明这两个图层有某种空间关系，我们看一下帮助。

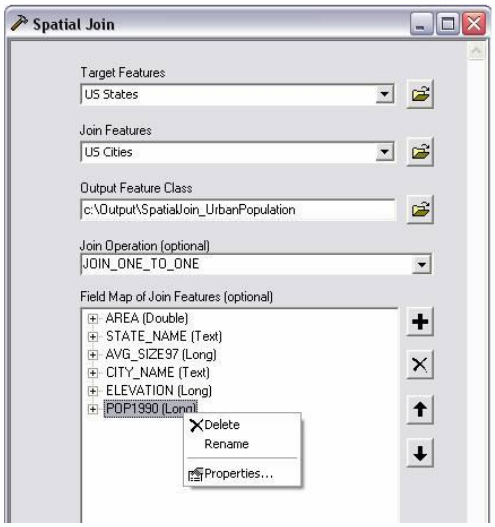


The purpose of this example is to get the sum of the 1990 population for US Cities in each US State, to get a greater understanding of urban population in the United States. US States will be target layer and US Cities will be the join layer in this spatial join operation.

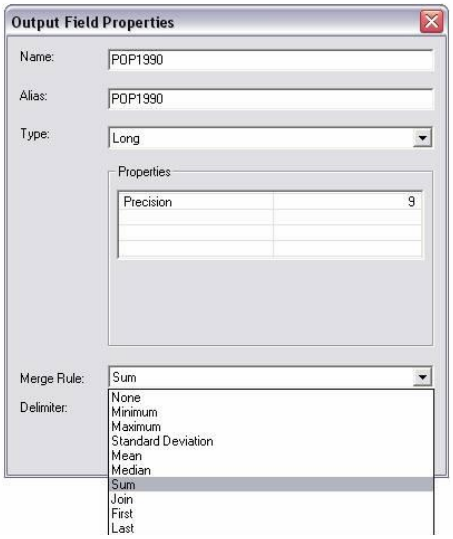
Fill out the parameters in the Spatial Join tool:



The Join Operation should be Join_One_To_One; this will populate only one record per state as aggregating a field for Join_One_To_Many operations is not applicable, as all feature relationships are preserved in the new feature class.



To aggregate the 1990 population field from the US Cities layer, right-click on the field in the Field Map control and click properties. This will display the Output Field Properties dialog.



In the dialog, set the Merge Rule to Sum. This will aggregate all the city populations that intersect each state.

To complete the spatial join, use the Intersects match option, so that each city point that intersects with a state polygon will be included in the join.

The output feature class will consist of all rows from the Target Features, because the "Keep All Target Features" option is checked.

Click "OK" to run the spatial join.

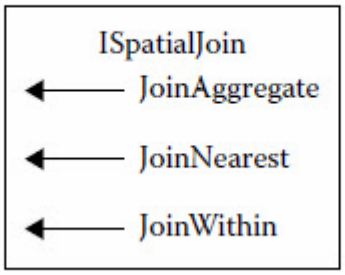
The Output Feature Class attribute table will consist of the POP1990 field that represents the urban population of each state. The City field represents one city that intersects that State, only one city is displayed because the Join_One_To_One operation was used and the default merge rule is First, which means the first encountered city name will be used in the output.


Attributes of State_UrbanPopulation

Join_Count	AREA	State	City	Capital	POP1990
383	157776.31	California	Delano	N	24903920
180	48561.751	New York	Cortland	N	12277124
182	264435.87	Texas	Dumas	N	11338194
180	56299.387	Illinois	Lake Forest	N	7789384
215	55814.731	Florida	Niceville	N	7662395
164	41193.957	Ohio	Shiloh	N	5955684
110	57899.398	Michigan	Marquette	N	5132377
162	7507.502	New Jersey	Berkeley Heights	N	4512219

Record: 0 Show: All Selected Records (0 out of 51 Selected) Options

To further an analysis on urban population, you can sort the POP1990 field in descending order to see that California, New York and Texas have the largest number of people living in cities out of all the United States.



NND,醉意，你到底想干什么，这又是什么，我好可怜呀，我只不过想让你们看一下那个 match option 中的东西，关于这个我们后面也会介绍的，稍安勿躁。