

Python Code from UGIC '08 Workshop!

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Here are the python code samples that I used in Friday's Introduction to Python workshop at the UGIC conference in Cedar City.

```
#-----  
  
#1gpExists.py  
#gp METHOD  
  
import arcgisscripting  
gp = arcgisscripting.create()  
  
if gp.exists(r"C:\ArcGIS\ArcTutor\BuildingaGeodatabase\Montgomery.gdb\Parcels"):  
    print "USstates.shp exists"  
else:  
    print "no shp named USstates.shp"  
  
del gp  
print "DONE"  
  
#oooooooooooooooooooooooooooo OR ooooooooooooooooooooooooooooo  
  
#import os  
  
#if os.path.isfile(r"C:\ArcGIS\ArcTutor\Using_ArcGIS_Desktop\USstates.shp"):  
    #print "USstates.shp exists"  
#else:  
    #print "no shp named USstates.shp"  
  
#-----  
  
#2gpCreateDir  
#gp TOOL  
  
import arcgisscripting  
gp = arcgisscripting.create()  
  
if gp.exists("C:/temp/ugic"): #---gp method  
    print "the directory is already there"  
else:  
    gp.CreateFolder_management("C:/temp", "ugic") #---tool  
    print "made the directory"  
  
del gp  
  
#-----  
  
#1 & 2 combined  
  
import arcgisscripting  
gp = arcgisscripting.create()  
  
theShp = r"C:\ArcGIS\ArcTutor\Using_ArcGIS_Desktop\USstates.shp"  
thePath = r"C:\temp\ugic"  
  
if gp.exists(theShp):  
    print "USstates.shp exists,"  
  
    if gp.exists(thePath):  
        print "...and the directory exists"
```

```
else:
    gp.CreateFolder_management(r"C:\temp", "ugic")
    print "...and I made the directory"

    gp.Copy_management(theShp, thePath + "\\myUSstates.shp")
    print "successfully copied"
else:
    print "no shp named USstates.shp"

del gp

#-----

import arcgisscripting
gp = arcgisscripting.create()
fc = r"C:\temp\Lights8.shp"

dsc = gp.describe(fc)

print "Spatial Index: " + str(dsc.HasSpatialIndex) #must convert boolean to str
print "Shape Type: " + dsc.ShapeType #already a str (see object model)
print dsc.CatalogPath
print dsc.DataType #Shapefile, FeatureClass
print dsc.SpatialReference.Name

del gp

#-----

import arcgisscripting
gp = arcgisscripting.create()
gp.workspace = r"P:\StreetLights\MonthlyDataFromCLS\200709"

fields = []

myList = gp.ListFields("Lights.shp")
field = myList.Next()
while field:
    fields.append(field.name)
    print field.name + " is a " + field.Type
    field = myList.Next()

del gp
print fields

#-----

print "start"

import arcgisscripting
gp = arcgisscripting.create()
gp.workspace = r"C:\ArcGIS\ArcTutor\BuildingaGeodatabase\Montgomery.gdb\Landbase"

fc = "Parcels"

#SEARCH CURSOR xxxxxxxxxxxxxxxxxxxxxxxx

#rows = gp.SearchCursor(fc)
#row = rows.Next()
#l = []
#while row:
#    #print row.STATE_NAME
#    #l.append(row.STATE_NAME)
#    #row = rows.Next()
```

```
#l.sort()
#print l

#INSERT CURSOR xxxxxxxxxxxxxxxxxxxxxxxx
try:
    rows = gp.InsertCursor(fc)
    row = rows.NewRow()
    row.Res = "KevinLand"
    rows.InsertRow(row)
    print "insert suces"
except:
    print "failed"

#UPDATE CURSOR xxxxxxxxxxxxxxxxxxxxxxxx
#myAge = 12

#rows = gp.UpdateCursor(fc)
#row = rows.Next()

#while row:
#row.POP90_SQMI = row.POP90_SQMI * myAge
#print row.POP90_SQMI * myAge
#rows.UpdateRow(row)
#row = rows.Next()

del rows
del gp

#-----

import arcgisscripting
gp = arcgisscripting.create()
gp.workspace = "c:\\temp\\ugic"
fc = "myUSstates.shp"

"ArcGIS toolbox parameters:
DisplayName: Enter your age
DataType: String"

myAge = int(gp.GetParameterAsText(0)) #convert str to int

rows = gp.UpdateCursor(fc)
row = rows.Next()

while row:
    row.POP90_SQMI = row.POP90_SQMI - myAge
    print row.POP90_SQMI - myAge
    rows.UpdateRow(row)
    row = rows.Next()

del rows
del gp

#-----

#call Model

import arcgisscripting
gp = arcgisscripting.create()
gp.workspace = "c:\\temp\\ugic"

gp.AddToolbox(r"P:\Transportation\00_SLCDOT.tbx")

try:
```

```
gp.getFreqofMStates()
print "success"
except:
    print "bombed"

#-----

#file named TEN_functions.py

def getSurroundingStates(stateName):
    """given a state name, creates a shp with those surrounding it """
    import arcgisscripting
    gp = arcgisscripting.create()
    gp.overwriteoutput = 1
    gp.workspace = (r"C:\ArcGIS\ArcTutor\Using_ArcGIS_Desktop")

    try:
        gp.MakeFeatureLayer("USstates.shp","States")
        gp.SelectLayerByAttribute("States", "NEW_SELECTION", "STATE_NAME" + " = " + "'" + stateName + "'")
        gp.SelectLayerByLocation("States", "BOUNDARY_TOUCHES", "States")
        gp.CopyFeatures("States", "c:/temp/statesSurrounding" + stateName + ".shp")
        print "success: getSurroundingStates of " + stateName

    except:
        print gp.GetMessages()

    del gp

#-----

import os

#you must tell python were to look for your code
os.sys.path.append(r"C:\Documents and Settings\Desktop\pyClass\zMisc")

import TEN_functions

TEN_functions.getSurroundingStates("California")

#----- you can prompt for input...
#functions.getSurroundingStates(raw_input("Enter a State Name: "))

#-----"map" is a python built-in function will execute a function for each item in a list...
#stateList = ["Mississippi", "Oregon", "New York"]
#map(TEN_functions.getSurroundingStates, stateList)

print "done calling imported function"
```