11-14-2007

What I’ve learned about Python

Carolyn Foley
Purdue University, cfoley@purdue.edu

Follow this and additional works at: http://docs.lib.purdue.edu/gisday

http://docs.lib.purdue.edu/gisday/5

This document has been made available through Purdue e-Pubs, a service of the Purdue University Libraries. Please contact epubs@purdue.edu for additional information.
What I’ve learned about Python

Carolyn Foley
Department of Entomology
Purdue University
November 14, 2007

cfoley@purdue.edu
Python

• ESRI’s script of choice
• Easy to understand
• Reduced keystrokes
Export model?

- ESRI makes it seem easy
- Weird output
- Start over
Python Win interface

- Write
- Test
- Debug

Output here (including errors)

Code here
Start of script (ArcGIS 9.1)

# Import system modules
import sys, string, os, win32com.client

# Create the Geoprocessor object
gp = win32com.clientDispatch("esriGeoprocessing.GpDispatch.1")
Checks

# Check out any necessary licenses
gp.CheckOutExtension("spatial")

# Load required toolboxes...
gp.AddToolbox("C:/Program Files/ArcGIS/ArcToolbox/Toolboxes/Data Management Tools.tbx")
Batch processing

- Iterate geoprocessing procedures over a list

<table>
<thead>
<tr>
<th>FeatureClass1</th>
</tr>
</thead>
<tbody>
<tr>
<td>FeatureClass2</td>
</tr>
<tr>
<td>FeatureClass3</td>
</tr>
<tr>
<td>FeatureClass4</td>
</tr>
</tbody>
</table>
Batch processing script

# Define array for loop

gp.workspace =
    "C:\\Cerambycidae\\RemapTables.mdb"

fcs1 = gp.ListFeatureClasses(“u*”, “point”)
fcs1.reset()
fc1 = fcs1.Next()
while fc1:
    gp.Compact_management("C:\Cerambycidae\Landscapes.mdb")
    rastin = "C:\Cerambycidae\Landscapes.mdb\Co2LC"
    Surf = Surf + 1
    SurfS = str(Surf)
    tbl = "C:\Cerambycidae\RemapTables.mdb\" + fc1
    rastout = "C:\Cerambycidae\Landscapes.mdb\Sur" + SurfS + "_Co2LC"
    gp.Reclassify_table_sa(rastin, tbl, "From", "To", "Out", rastout, "DATA")
    fc1 = fcs1.Next()
Other useful commands

• **If** condition1:
  Commands

  **Elif** condition2:
  Commands

  **Else**:
  Commands

• **For .. In ..**:
  Commands

• **Try**:
  Commands

  **Except**:
  Commands
Re-running scripts

# Overwrite existing output
gp.OverWriteOutput = 1

• Problems in Python Win
  – Import to ArcMap Toolbox, Model
Inputting parameters

• Var1 = `sys.argv[1]`

• Var2 = `gp.GetParameterAsText`
Python help

- FNR Scientific Computing Lunch (Jonah Duckles)
  www.jduck.net/scicomp/
  www.jduck.net/scicomp/index.php5?title=Intro_To_Python
  www.jduck.net/scicomp/index.php5?title=ArcGIS_Python

- Python website
  www.python.org/doc/

- ESRI Support Center forums
Thanks!

• Chris Miller
• Larry Theller
• Jane Frankenberger
• Jonah Duckles and Pijanowski Lab
• Discussion forum posters
• Jeffrey Holland