

# Lab Assignment 1 – Review of Geoprocessing and Python

## Deliverable 1: Answers to Challenge Exercise 1. (5 points):

- What are the required parameters?
- What are the optional parameters, and what are their defaults?

**XY Coordinate:** arcpy.AddXY\_management(in\_features) where adds the fields POINT\_X and POINT\_Y from in\_features is required parameter (feature layer, geometry type point) , no Optional parameters

**Dissolve:** Dissolve\_management (in\_features, out\_feature\_class, {dissolve\_field}, {statistics\_fields}, {multi\_part}, {unsplit\_lines}) where in\_features and Out\_features is required parameters and , {dissolve\_field}, {statistics\_fields}, {multi\_part}, {unsplit\_lines} are optional parameters.

## Deliverable 2: Copy and paste the content of your script for Challenge Exercise 2 as text into your report. (5 points)

```
import arcpy
from arcpy import env

env.workspace = "H:\GEOM73\DATA\Exercise05"
arcpy.AddXY_management("hospitals.shp")
```

## Deliverable 3: Copy and paste the content of your script for Challenge Exercise 3 as text into your report. (5 points)

```
import arcpy
arcpy.env.workspace = " H:/GEOM73/DATA/Exercise05 "
arcpy.Dissolve_management(parks",
"H:/GEOM73/DATA/Exercise05/Results/Parks_disslove.shp","PARK_TYPE", " ", FALSE ")
```

## Deliverable 4: Copy and paste the content of your script for Challenge Exercise 4 as text into your report.

```
import arcpy
from arcpy import env
env.workspace = " H:/GEOM73/DATA/Exercise05 "
a = arcpy.CheckExtension("tracking")
if arcpy.CheckExtension("spatial") == "Available":
    s="Spatial Analysis"
else: s=""
if arcpy.CheckExtension("3D") == "Available":
    e= "3D Analyst "
else: e= ""
if arcpy.CheckExtension("Network") == "Available":
    n = "Network Analyst "
else: n = ""
print ("The following extensions are available: ", s+e+n+ default)
```

## Deliverable 5: What are the required parameters of the Intersect tool? What are the optional parameters, and what are their defaults? (5 points)

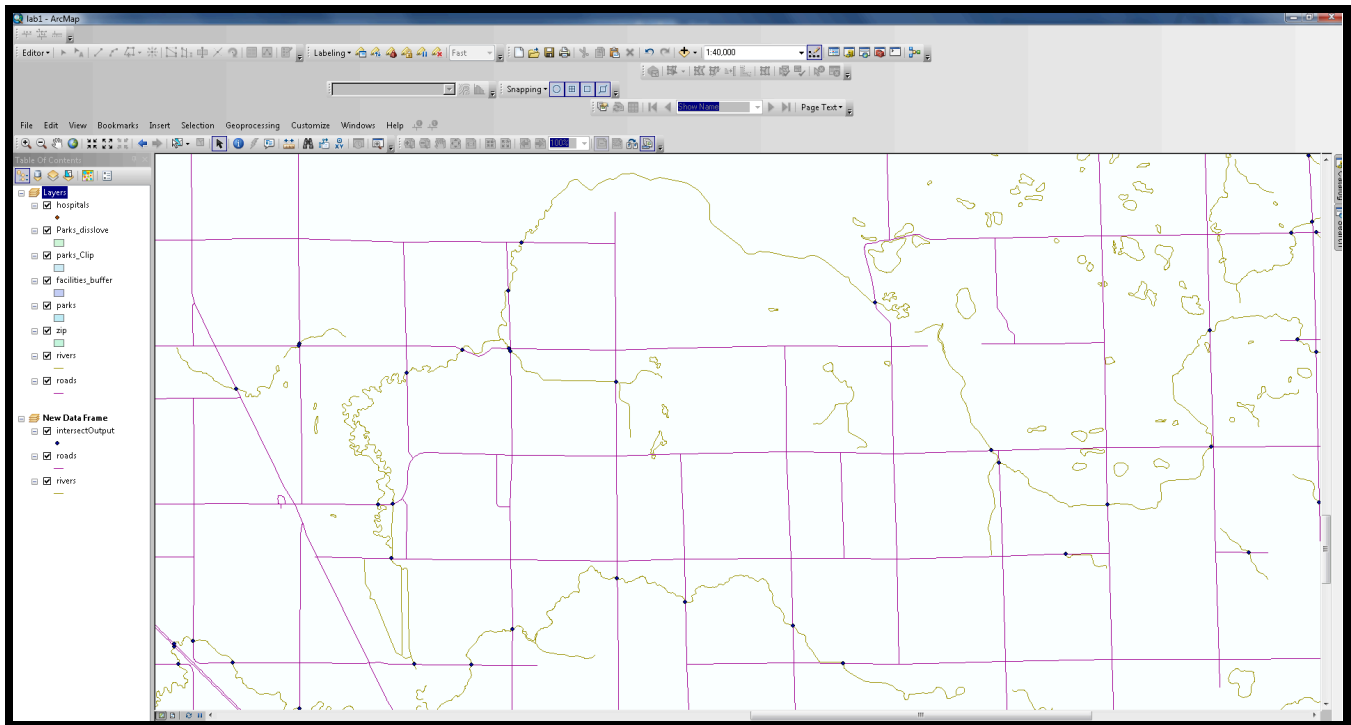
Intersect\_analysis (in\_features, out\_feature\_class, {join\_attributes}, {cluster\_tolerance}, {output\_type})

Required parameters: in\_features, out\_feature\_class

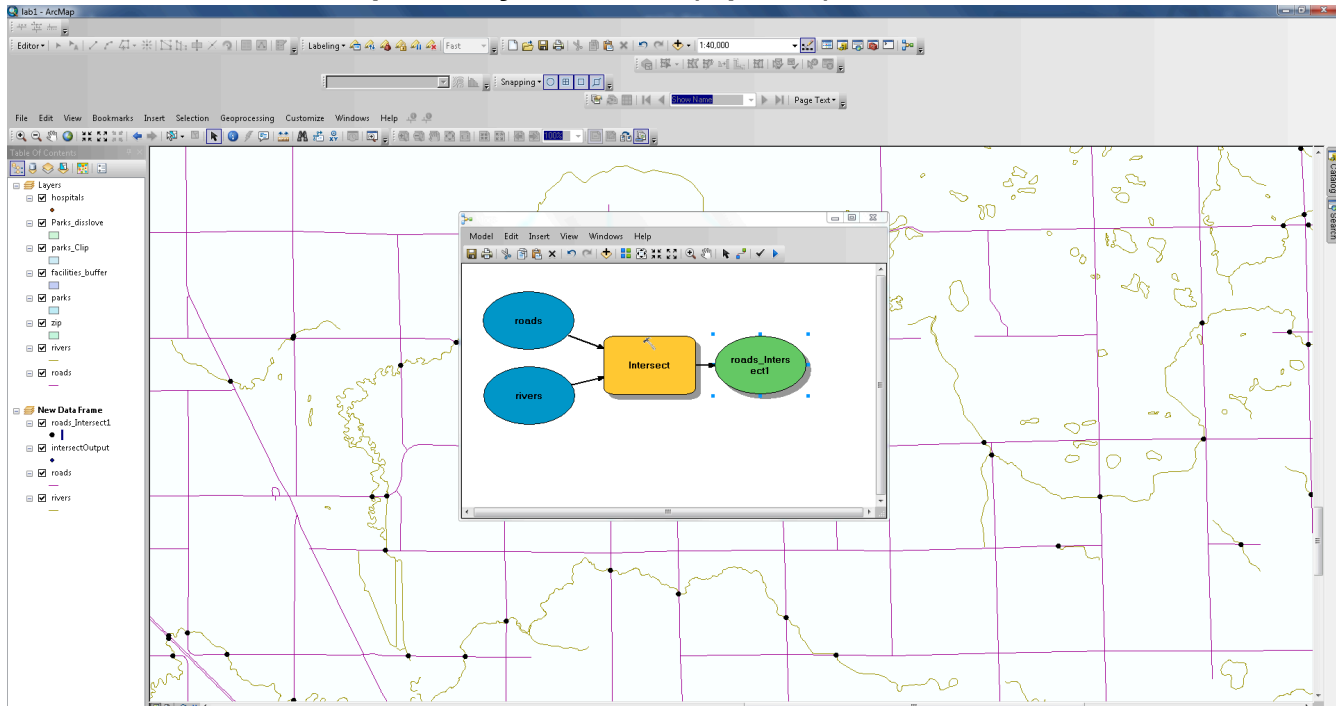
Optional Parameters: , {join\_attributes}, {cluster\_tolerance}, {output\_type}

**Deliverable 6: Screen capture of your Intersect result, similar to the image above. (5 points)**

```
import arcpy
from arcpy import env
env.workspace = " H:/GEOM73/DATA/Exercise02"
arcpy.Intersect_analysis(["rivers","roads"], "intersectOutput", "", -1, "point")
```



## Deliverable 7: Screen capture of your model. (5 points)



## Deliverable 8: Copy of your script, exported from your model. (5 points)

```
# -*- coding: utf-8 -*-
```

```
# -----
# intersect.py
# Created on: 2019-01-21 19:59:20.00000
# (generated by ArcGIS/ModelBuilder)
# Description:
# -----
```

```
# Import arcpy module
import arcpy
```

```
# Local variables:
roads = "roads"
rivers = "rivers"
roads_Intersect1 = "H:\\My Documents\\ArcGIS\\Default.gdb\\roads_Intersect1"
```

```
# Process: Intersect
arcpy.Intersect_analysis("roads #;rivers #", roads_Intersect1, "ALL", "", "POINT")
```

## Deliverable 9: Copy and paste your script as text into your report. (10 points)

```
import arcpy
```

```

from arcpy import env
env.workspace = "H:/GEOM73/DATA/Exercise02"
arcpy.Intersect_analysis(["rivers","roads"], "intersectOutput", "", -1, "point")

arcpy.Intersect_analysis(["rivers","roads"], "intersectOutput", "",
-1, "point")
<Result 'H:\\My Documents\\ArcGIS\\Default.gdb\\intersectOutput'>

```

**Deliverable 10: Describe some of the differences between your script and the results from exporting the model. In general, how useful do you think it is to use an exported model as the starting point for writing a script?**

**Deliverable 11: Copy and paste the content of your script for Challenge Exercise 1 as text into your report.**

```

>>>import arcpy
>>> env.workspace = "H:\\GEOM73\\DATA\\Exercise06\\Results\\newstudy.gdb"11:
>>>fc_list=arcpy.ListfeatureClasses()
>>> for fclass in fc_list:
...     desc = arcpy.Describe(fclass).shapeType
...     print fclass+"is a"+desc+"featuresclass"

```

**Deliverable 12: Copy and paste the content of your script for Challenge Exercise 2 as text into your report.**

```

import arcpy
from arcpy import env
env.overwriteOutput = True
env.workspace = "H:\\GEOM73\\DATA\\Exercise06\\Results\\bc.gdb"
fc_list = arcpy.ListFeatureClasses()
arcpy.CreateFileGDB_management("H:\\GEOM73\\DATA\\Exercise06\\Results", "newstudy.gdb")
for fc in fc_list:
    desc = arcpy.Describe(fc)
    if desc.shapeType == "Polygon":
        arcpy.Copy_management (fc, "H:\\GEOM73\\DATA\\Exercise06\\newstudy.gdb\\" + fc)

```

**Deliverable 13: Copy and paste your script as text into your report. (15 points)**

```

>>> import arcpy

>>> from arcpy import env
>>> env.workspace = "H:\\GEOM73\\DATA\\Exercise05"
>>> if arcpy.Exists("roads.shp") and arcpy.Exists("rivers"):
...     if arcpy.Describe("roads.shp") == "LINE" and arcpy.Describe("rivers")== "LINE":
...         arcpy.Intersect_analysis(["roads.shp","rivers.shp"],"intersect.shp","", "", "POINT")

```