**Lab 1 (Part 2)** – **Python Scripting for Geoprocessing in ArcGIS**

(Due date: Fri. Feb. 3, 2017)

Please complete the **three** exercises in the lab and answer questions in this assignment. Ignore the questions in green boxes in the exercises. Try to make your answers succinct (< 50 words if in text). Submit this file to Laulima before the stated due date.

**Exercise 1: Use a feature class list for geoprocessing**

Question 1.1 (1 pt): Interactive console and script editor are the two components of PythonWin. Which one do you use to run multiple lines of Python scripts at one time?

Question 1.2 (1 pt): What is the first thing you need to do before using tools in arcpy?

Question 1.3 (1 pt): In Step 6, you created a list of feature class **fcList**. Please write one line of script to print the name of the last feature class in the list.

Question 1.4 (1 pt): In Step 8, you used **arcpy.Usage(“Buffer\_analysis”)** to print the syntax of buffer tool. Please list all required variables for the buffer tool. Also, explain what do the words in the curly brackets mean.

Question 1.5 (1 pt): How many elements (feature classes) are in **bufferList**? What are their names?

**Exercise 2: Use Python to create buffers around forest roads**

Question 2.1 (1 pt): In this exercise, you have joined a feature class **Roads** with a table **BufferDistance**. Please make a screenshot of the attribute table of **Roads** and paste it here.

Question 2.2 (4 pt): Use ModelBuilder to create a model that duplicates the same geoprocessing workflow in this exercise. Run the model. Make a screenshot of the model (in already run status) in ModelBuilder and paste the screenshot here.

**Exercise 3: Create a script tool**

Question 3.1 (1 pt): In the newly-created script tool (**Create Buffer Water**), you used the following line to make buffers:

Arcpy.Buffer\_analysis(fc, fc + “Buffer”, “1000 meters”, “”, “”, “ALA”)

What do the empty quotes (“”) mean?

Question 3.2 (4 pt): Based on the script tool (**Create Buffer Water**), add buffer distance (in **Buffer** tool) and XY Tolerance (in **Union** tool) as two additional input parameters**.** Copy&paste the Python scripts and graphic user interface of the modified script tool here.