

Lab 2

Exercise 7

1. “Try/Except” blocks are useful tools for error handling. They allow errors to be caught and handled without halting execution of the entire script. One example of their use would be to prepend a block of code meant to read from a file in a “Try:” and follow it with an “Except” that prints a message saying the file does not exist (if an error occurs in the “Try”).
2. Syntax Errors occur when python code is written incorrectly, such as when an open parenthesis is not closed. Attribute Errors often occur when a method or member variable of an object that does not exist is called or referenced. Name Errors occur when a variable or function is referenced that has not yet been defined.
3. Python debuggers help find and trace bugs. Debuggers allow syntax checks and some – like PyScripter - allow you to set breakpoints that “pause” execution at key points in the script to understand errors and execution patterns.

Exercise 8

1. Cursors allow us to read and modify tables. InsertCursor allows for data to be created, SearchCursor allows for data to be read, and UpdateCursor allows for data to be updated and deleted.
2. Quotations are required for strings in SQL queries and therefore must be ‘escaped’ by ‘\’ so that the python interpreter does not get confused by multiple sets of “ and ‘. One example is `sql_exp = "FEATURE" = \'Seaplane Base\'`. If the ‘ characters surrounding Seaplane base were not escaped, a SyntaxError would occur.
3. Field delimiters vary with the format of the feature class. AddFieldDelimiters adds field delimiters based on feature class format so that we do not need to worry about errors resulting from the wrong delimiter.
4. Arcpy functions that validate field names convert invalid characters to ‘_’.
5. The arcpy function CreateUniqueName will attempt to create a unique name with a given string. If the name exists, a number is appended, starting at 0. The Number increments until a unique name is found.