Assignment - Dependency Graph

retrieveWeight Plug-in

- **Topics Covered**
  Implement a custom command, which retrieves information from multi attribute "weight" of a blendShape node with class MPlug. It demonstrates how to traverse the element plugs and get value from array plug outside of a node.

- **Overview**
  In this Plug-in, we will create a custom command "retrieveWeight", it searches attribute "weight" on blendShape node and since it is a multi attribute, it prints out the number of elements in this array attribute and traverse the array to print out plug data on every element.

- **Exercises**
  - 1. Double click on retrieveWeight.py, the skeleton of the retrieveWeightCmd has already been provided.
  - 2. Implement retrieveWeightCmd.py, add necessary function declaration
  - 3. Implement retrieveWeightCmd.py, in doIt() function, get a hold of "blendShape" in the scene and find out "weight" on this node and print out all multi attribute information on this node.
    Relevant classes and methods:

    > MFnDependencyNode::findPlug()
    > MPlug::isArray(), MPlug::numElements()
    > MPlug::elementByPhysicalIndex(), MPlug::logicalIndex()
    > MPlug::getValue()

  - 4. In retrieveWeightCmd.py, implement both initializePlugin() and uninitializePlugin() functions to handle registration and de-registration of the retrieveWeight command.
    Relevant classes and methods:

    > MFnPlugin::registerCommand()
    > MFnPlugin::deregisterCommand()

- **Result**
  Open scene file blendShape-2010.mb. Find the blendShape1 node and select it, then execute "retrieveWeight". It will print out the array attribute name, how many elements

this array has, the physical and logical index of all the elements in the array and the weight value of each target shape stored in every element of the array.