GIS Project Requirements
IDEA #1

**Using the datasets “countries”, “populated places”, “airports”, “disputed areas” & “urban areas” (Attached in the same folder).
Please note there will be **INDIVIDUAL ASSESSMENT during discussion on your project + labs content.

1) List all data you are working with and show them on ArcMap
2) Create shapefiles for cities & disputed areas in Palestine (Make sure to select them all) + Print them on PyCharm (6 shapefiles will be created)
3) For above requirement (requirement no. 2), Using the Update Cursor update “Sovereignt” & “sov0name” fields to “Palestine”
4) Create shapefiles for countries that have “military” airports (All kinds of military airports) + Print them in Pycharm
5) Create shapefiles for urban areas in the 3 continents (Asia, Europe & North-America) + Print their names in Pycharm
6) Create shapefiles for disputed areas based on “Income GRP” below “4” + Print their names in Pycharm
7) Using Search Cursor print the name, location & wikipedia for all airports which are “ramp”
8) Create shapefiles for all cities in Arabic countries using only ONE condition
9) Using Search Cursor create shapefiles for urban areas in countries based on (FID & Sovereignty) condition that area_sqkm > 50 & region is “Africa”
   Let files’ names be in the format of “UrbanAreas_in_CountryName_FID” (consider handling invalid characters)
10) Create a tool implementing requirement no. 9 (Above requirement) adding Log Messages
11) Using Update Cursor for multiple fields, update empty fields that are of string datatype in airports with the english name of the airport
12) Create a tool implementing requirement no. 11 (Above requirement)
13) Create a tool to update “economy” of disputed areas that their population year is < 2014, adding Log Messages of updated areas + Print updated areas + Print the count of them out of the total count of all areas
14) Print full path for a bunch of images
15) Print exif Tags for these images
16) Print GPS Tags/Info for each image indicating which is geotagged & which is not
17) Print latitude & longitude for each geotagged image

GIS Project Requirements
IDEA #2

**Using the datasets “countries”, “populated places”, “time zones” , “lakes” , “boundary lines land” , “ disputed areas” , “geographic lines” (Attached in the same folder).
Please note there will be **INDIVIDUAL ASSESSMENT during discussion on your project + labs content.

1. List all data you are working with and show them on ArcMap.
2. Create a shapefile for cities & disputed areas in Morocco (Make sure to select them all) + Print them on PyCharm.
3. Create a shapefile for lakes in “Africa” continent + Print their number in Pycharm.
4. Create a shapefile for cities that have “sov0name” equal to “United Kingdom”.
5. For above requirement (requirement no. 4), Using the Update Cursor update “sov0name” fields to “Britain”.
6. Using Search Cursor print the “name”, “scalerank” & “wikidataid” for all lakes.
7. Using update cursor edit any lake that has wikidataid = null with “undefined” and add to a note column that “this row is updated”.
8. Using Search Cursor create shapefiles for “boundary lines land” for borders that has (Germany - Egypt - Brazil) from left and right borders
9. Create a tool implementing requirement no. 8 (Above requirement) adding Log Messages
10. Using Search Cursor for multiple fields,Select (places & the name of time zone) for any time zone is less than (UTC±00:00)
11. Create a tool implementing requirement no. 10 (Above requirement) adding Log Messages.
12. Create a shapefile for countries and its cities that intersect with “Equator geographic line” + print them on Pycharm.
    Note:Use Intersect overlap type.
13. Using Search Cursor print all places that have a time zone (UTC±02:00).
    Note: Print them in a list without repetition.
14. Create a tool implementing requirement no. 13 (Above requirement) adding Log Messages.
15. Print full path for a bunch of images
16. Print exif Tags for these images
17. Print GPS Tags/Info for each image indicating which is geotagged & which is not
18. Print latitude & longitude for each geotagged image

GIS Project Requirements
IDEA #3

**Using the datasets “Land”, “geography region points”,” geography regions polys”, “geography region elevation points”, “glaciated areas”, “rivers_lake_centerlines” (Attached in the same folder).
Please note there will be **INDIVIDUAL ASSESSMENT during discussion on your project + labs content.

1) List all data you are working with and show them on ArcMap
2) Create a shapefile for all the geography region elevation points on the Land and another shape file for the geography region points on Land then Print how many point in each shape file
3) Search for the mountain with no name in the elevation points and print its latitude and longitude and then update it with the value written in the comment field
4) Create shapefiles for each region in geography region elevation points that are in glaciated areas (hint: the result will be around 7 shapefiles)
5) Create shapefiles for geographic region points in the 3 subregions (Indian Ocean, North Pacific Ocean & South Pacific Ocean) + Print their names
6) Create shapefiles rivers_lake_centerlines based on scalerank
7) Using Search Cursor print the name, region & WIKIDATAID for all geography regions polys
8) Create a shapefile for all Lake Centerline in river_Lake_centerline using only ONE condition
9) Using Search Cursor create shapefiles for geography region elevation points based on (featurecla) condition that elevation > 1500 & region is “Africa”
10) Using Update Cursor for multiple fields, update empty fields that are of string datatype in geography region points
11) Create a toolbox implementing all the requirements above (and make sure to print the logs in ArcGIS as well)
12) Print full path for a bunch of images
13) Print exif Tags for these images
14) Print GPS Tags/Info for each image indicating which is geotagged & which is not
15) Print latitude & longitude for each geotagged image