

BCM3173 – 1718-I

LAB TASK: GIS DATA SOURCES AND DATA PROCESSING

In developing a GIS database, several processes are required. Data preparation is one of the first steps and is very important. In preparing the data, the processes required might include digitizing, exporting, importing, converting, merging, joining etc.

Task 1

1. Based on the data you have collected in previous lab exercise (Lab Task: Spatial Data Model Part 1 and Part 2), do the following:
 - a. Import all your collected features and your friends' features. If your class has 30 students, you should import 30 different features.
 - b. Create a **File Geodatabase** and store all the features (your collected features and the ones from your friends) as **feature class**.
 - c. Combine features according to categories. At this point, you should have 4 feature classes named Houses, ShoppingComplex, Hospitals and Schools as the output.
 - d. Customize the symbols and colours of your point features, and display them with the basemap.

Task 2

2. You are given a shapefile named Malaysia_poi.shp (can be downloaded from Kalam, or from here <http://www.mapcruzin.com/free-malaysia-country-city-place-gis-shapefiles.htm>). This shapefile contains various types of point of interests in Malaysia.
 - a. Choose two additional categories of POI from Malaysia_poi.shp.
 - b. Export them to the File Geodatabase you created in Task 1.

Task 3

3. You are given one more file which is Malaysia_state.shp.
 - a. Export this shapefile to your geodatabase from Task 1.
 - b. Check the attributes of this shapefile. How many features are there?
 - c. Create at least another 4 feature classes by merging the states to be in these categories:
 - Northern : Perlis, Kedah, Penang, Perak
 - EastCoast: Kelantan, Terengganu, Pahang
 - Central: Selangor, Negeri Sembilan, Kuala Lumpur, Putrajaya
 - Southern: Melaka, Johor
 - If you have Sabah and Sarawak, create one more by combining these 2 states.

Task 4

4. On the internet, try to find one basemap (Malaysia digital map) and try to add the basemap into your File Geodatabase. In order to do this, you need to do Georeferencing. Refer to this guideline

https://www.trentu.ca/library/sites/default/files/documents/georeferencing_10_2.pdf

p/s: Note that the guideline uses coordinate system for United States. In your case, please find proper coordinate system based on your location (Malaysia).

Question: How many sources of data have you encountered so far? What are the processes involved in preparing your current GIS map?

Report Instructions:

1. Explain the steps required in Task 1 and Task 2. Similar steps need not be explained repeatedly.
2. Compare the method of data preparation you use in Task 1 and Task 2. Which one is better, and why?
3. Complete task 3 by answering question 3b.
4. Provide the screenshots whenever necessary to show steps/output.
5. Report is to be submitted latest by Sunday 16 Oct 2016 before 11.55pm through Kalam.
Hardcopy is to be submitted by the following Monday before 5 pm.