Lab Session 3
Database Editing and Spatial Analysis in Arc View

Preparation
Working directory: D:\GIS\your_dir
Copy data set \ MuangPathumthani\ to your directory

Exercise 1: Creating Population map.

- Open the new **View** and change the name to **Population**
- Add Theme *Tambon.shp*
- Open Theme table. Look at the fields *Tam_code.*
- Make the Project window active. Add an existing table *gen_pop.dbf.* . Look at the fields *Tam_code*
- Select *gen_pop.dbf.* Go to **Table** menu and click **Start Editing** item
- Go to **Edit** menu and click **Add Field.**
- Define the new field
    - Name: *code*
    - Type: *string*
    - Width: *7*
- Select field *code.* Go to **Field** menu and click **Calculate.**
- Type the expression *code = "1"+[Tam_code]*
- Go back to **Table** menu and click **Stop Editing** item
- Now we can join attribute table of Tambon.shp and gen_pop.dbf
- Calculate the population density by the equation density = Nopeople/Area
  (*Hint: Add the new field and calculate the value of this new field)*
- Make the follow layouts
    - Tambon by Nopeople
    - Tambon by NoMale
    - Tambon by Nofemale
- Symbolize *Tambon.shp* by Chart.
    - Select **Chart** in **Legend type**
    - Add *Nomale. Nofemale and* population density
    - Label by name of tambon
    - Make Layout

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Data set C:\esri\av_gis30\avtutor\spatial\
Go to File in ArcView. Select Extension Spatial Analyst

2. Exercise 2: Introducion of Grid Theme

- Open the New View
- Add theme. Select **Grid Data Source** as Data Source Type. Add theme ***elevgrd***
- Change the color of the display
  - ◊ Double_click on *Elevgrd* to bring up the Legend Editor.
  - ◊ Click **Classify** button
  - ◊ Change the number of classes
  - ◊ Change the Color Ramp
- Giving the display depth
  - ◊ Add the grid data ***hillshd*** into the view
  - ◊ Double_click on ***Elevgrd*** to bring up the Legend Editor.
  - ◊ Press **Advance** button
  - ◊ Select ***hillshd*** as Brightness Theme
  - ◊ Set the Minimum and Maximum Cell Brightness
  - ◊ Click Apply and see the effect
- View the distribution data
  - ◊ Make ***Elevgrd*** theme active
  - ◊ Click on histogram button

(Note: Open Theme Table is not available)

- Derive slope from the elevation theme
  - ◊ Make ***Elevgrd*** theme active

◊ From the Surface menu select Derive Slope

- Create Contour
  - ◊ Make ***Elevgrd*** theme active

◊ From the Surface menu select Create Contour

- Compute the hill shade
  - ◊ Make ***Elevgrd*** theme active

◊ From the Surface menu select Compute HillShade

- Trace a contour on the grid theme
  - ◊ Make ***Elevgrd*** theme active

◊ Select Contour tool and click on the interested point

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3. Exercise 3: Finding the best place for a new bank

You will learn how to

- ◊ *Query multiple data sets to create new dataset*
- ◊ *Convert grid theme to shapefile*

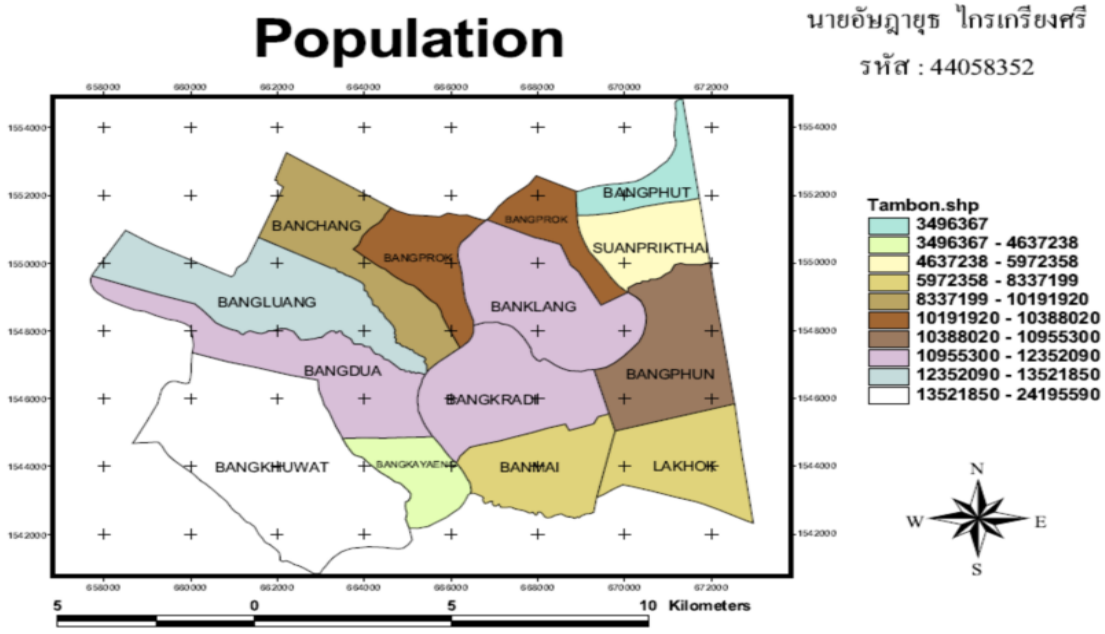
Data: c:\esri\av_gis30\avtutor\spatial

- Open the new view and set projection as ***State Plane 1983, Georgia, West***
- Add feature theme ***bank.shp***
- Query banks for high deposits
  - ◊ Query by expression ***[Privat_dep] >= 10000000***
- Create a map of distance from the selected bank
  - ◊ From the **Analysis** menu select **Find Distance**
  - ◊ Output Grid specification Select ***same as bank.shp***
- Add grid theme ***popden***
- Overlay maps and performing a query for satisfying a condition
  - ◊ From the **Analysis** menu select **Map Query**
  - ◊ Build the expression as

    ([Popden] > 3000) and ([Distance to Bank.shp] > 500)
- Convert the result to shapefile (named as ***Newbank.shp***)
- Display the result
  - ◊ Add theme ***street.shp***
  - ◊ Edit legend of ***Newbank.shp***
  - ◊ Make layout

Some Example Results

Example 1



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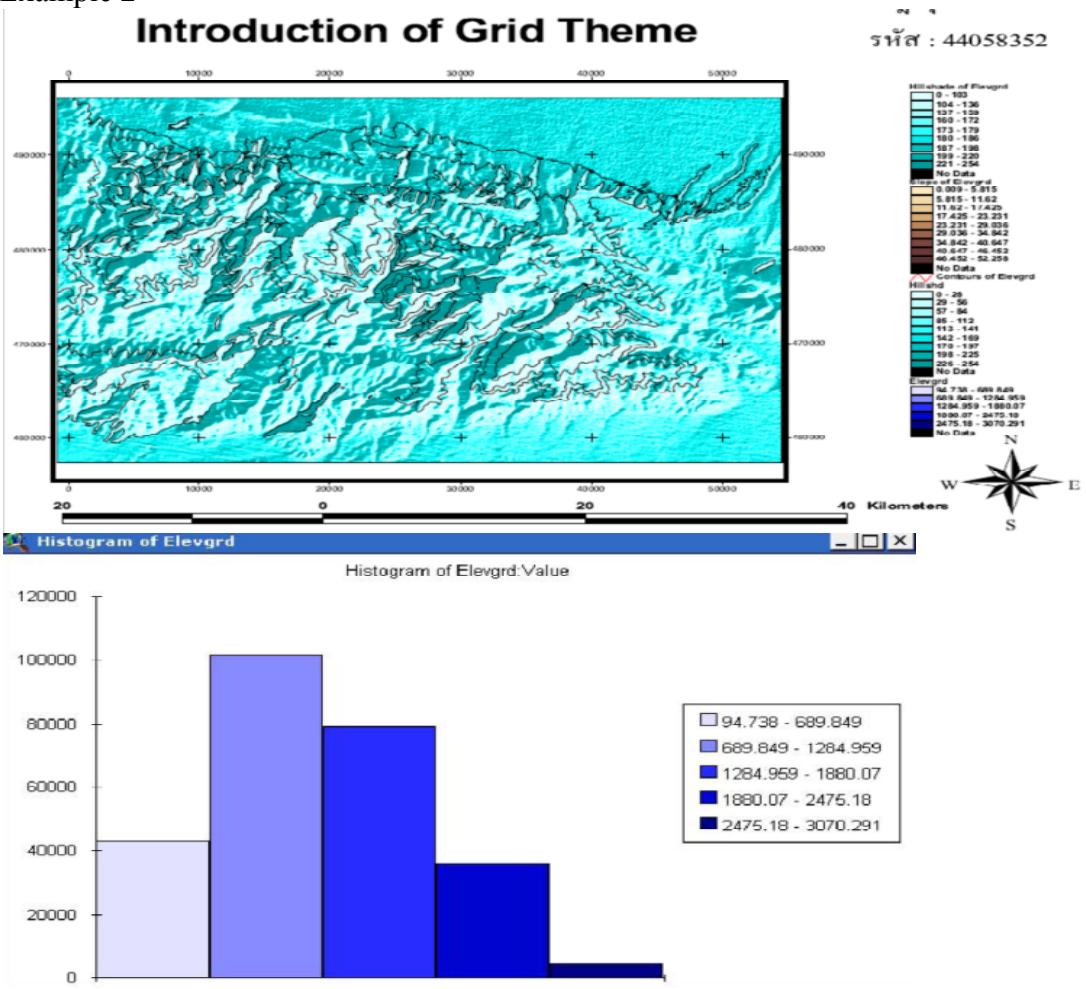
Example 2



Example 3