Lab Session 5
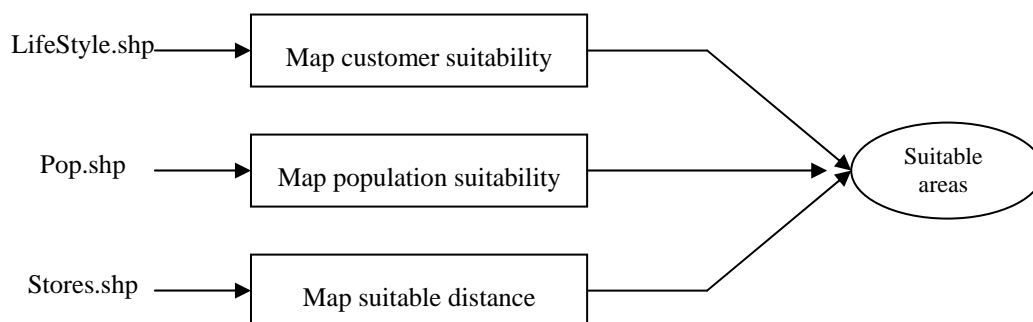## *ArcView – Spatial Analyst2*

Preparation

Data set C*:\esri\av_gis30\avtutor\spatial*

Start ArcView. Select *Extension* Spatial Analyst

1. Exercise 2: Map Composite Suitability

You will learn how to create maps of suitability based upon some layers.
Topic: Find the suitable areas for the new stores based upon customer demographics, population and distance from existing stores.

- Set Map Units to meters
- Add lifestyle.shp, pop.shp and stores.shp to your view
- Map suitable distance
    ◊ Select successful "stores.shp" by expression [Revenues] > 0
    ◊ Create a map of distance from selected stores (Output Grid Extent is *Same As Lifestyle.shp* and Output Grid Cell is 250 m)
    ◊ Reclassify the distance theme
    ◊ =>Menu Analysis =>find distance

Number of classes	5
Range	
0 – 3000	1
3000 – 4000	3
4000 – 5000	5
5000 – 6000	7
6000 - 40000	10

    ◊ Change the legend type to Graduated Color

- Map customer suitability
    ◊ Convert *Lifestyle.shp* to Grid file

Name	Group
Output Grid Extent	Same As Distance to Stores.shp
Output Cell Size	Same As Reclass of Distance to Stores.shp
New Grid Cell Values	Joescust

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◊ Reclassify the Group theme

Number of classes	10

◊ Change the legend type to Graduated Color

- Map population suitability
  - ◊ Make *pop.shp* active
  - ◊ Select Calculate Density from Analysis menu

Output Grid Extent	Same As Group
Output Cell Size	Same As Reclass of Distance to Stores.shp
Population field	Pop100
Search Radius	3000
Density Type	Kernel

  - ◊ Reclassify the Density from pop.shp theme

Number of classes	4
Range	
0 – 1000	1
1000 – 1400	5
1400 – 1900	7
1900 – 2600	10

  - ◊ Change the legend type to Graduated Color

- Map composite suitability
  - ◊ Select Map Calculator from Analysis menu
  - ◊ Build the expression as follow

([Reclass of Density from Pop.shp] + [Reclass of Distance to Stores.shp] + [Reclass of Group]) / 3

  - ◊ Click Evaluate
  - ◊ Change the Legend type of Map Calculation 1 to Graduated Color
- Make layout

Note :
See example result in http://www.pirun.ku.ac.th/~fengwys/gis/lab/result/lab5.pdf