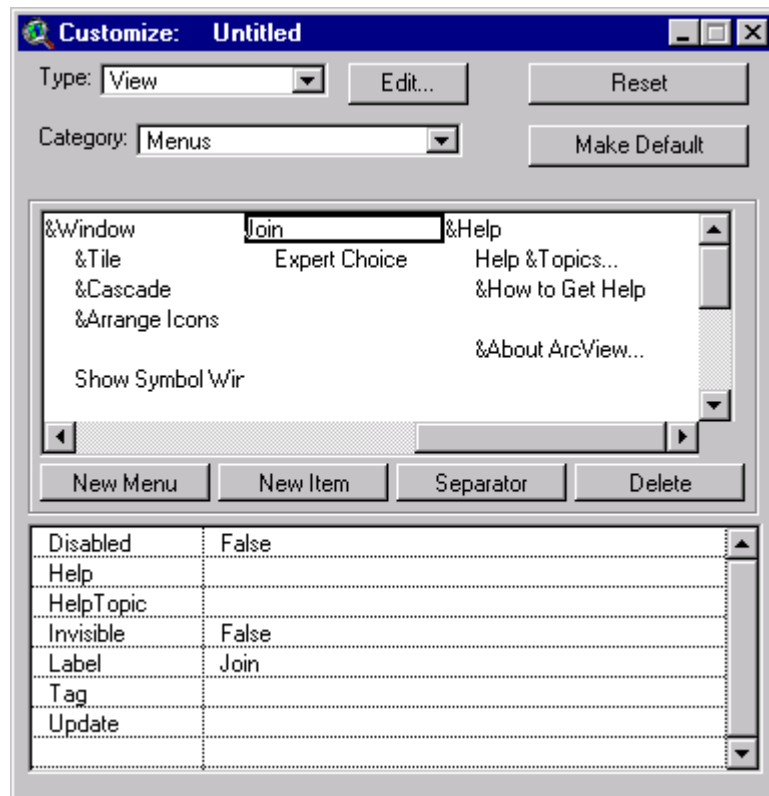


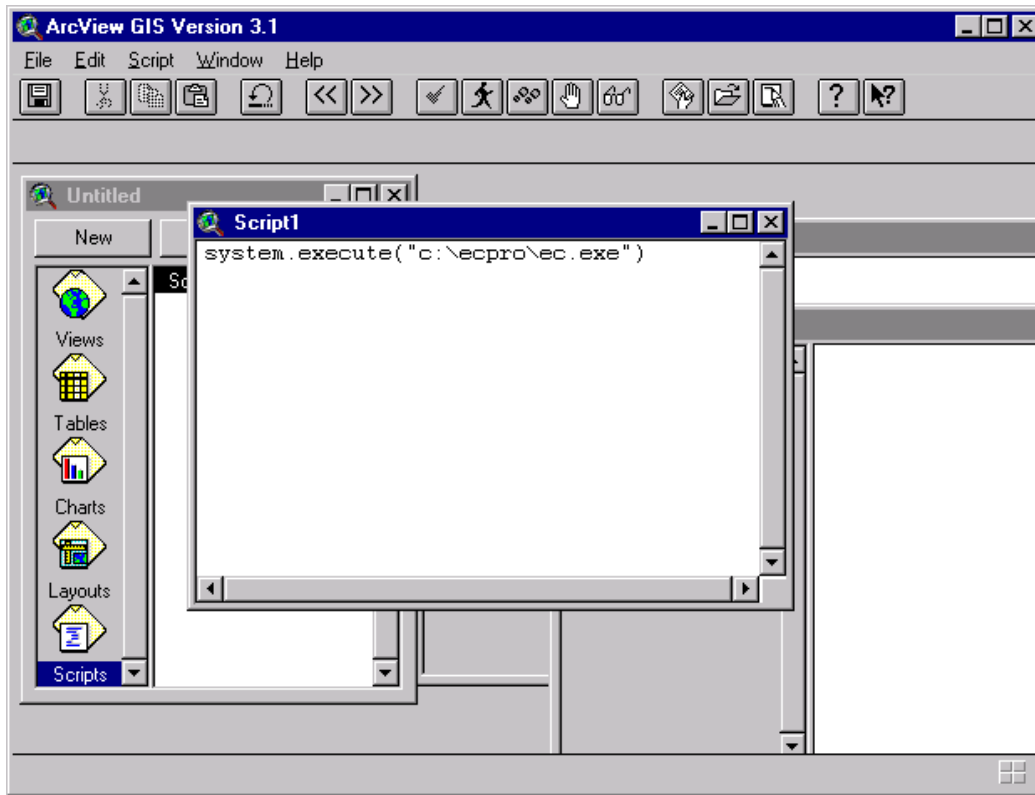
Merging AHP with GIS for Planning Applications

Merging Expert Choice with ArcView

- In ArcView create a (drop down) menu to activate Expert Choice. See ESRI manual for creation of menus.

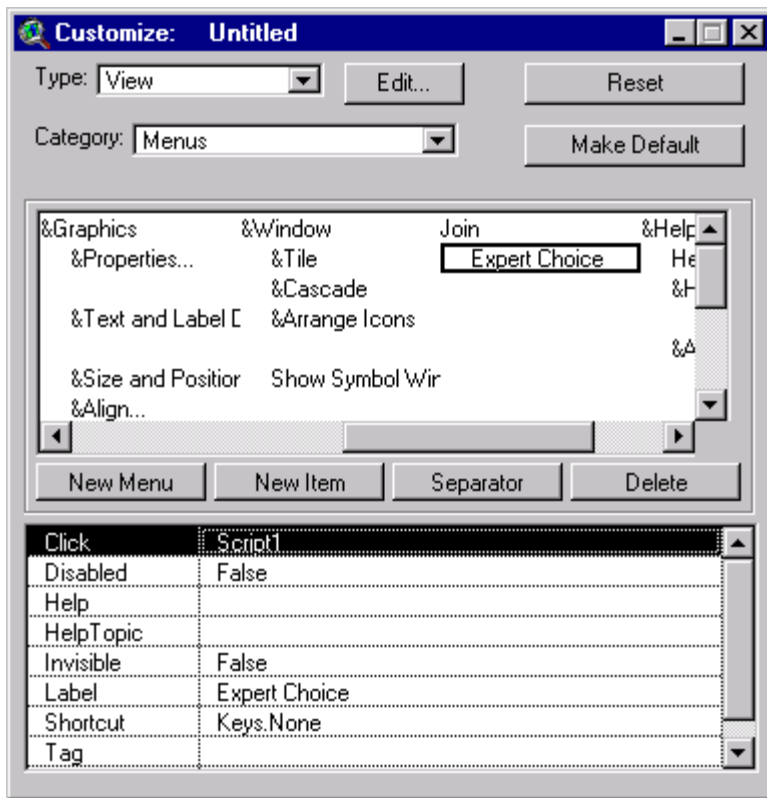


- Write a script using the script editor as shown below

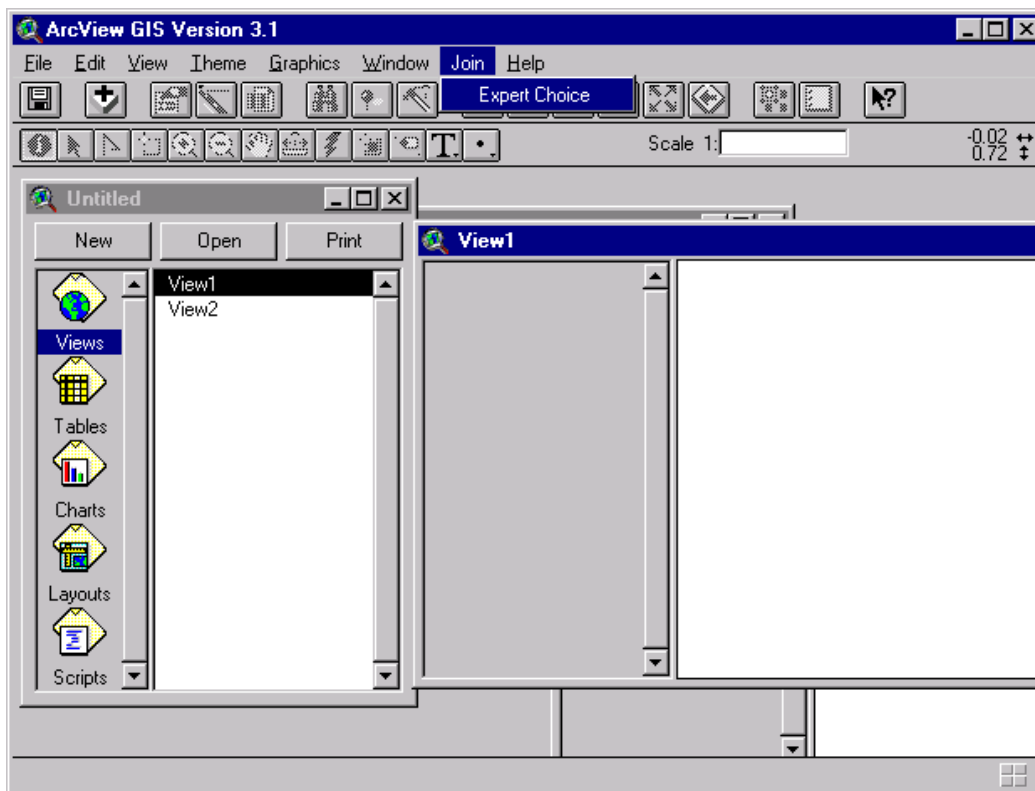


Note: Expert Choice path above is `c:\ecpro\ec.exe` .

Compile the script and associate the menu action with the newly created script.



- Execute the Expert Choice using the newly created menu to perform the ratings.



RATINGS: C:\ECPRO\NEARBUFF - [Rate / Cost]

File Edit View Plot Data Window Help

Next Refresh

LANDUSE

COMMERCIAL 1 (1.000)	RESIDENT 2 (.519)	PUBLIC 3 (.273)	VACANT 4 (.066)
--------------------------------	-----------------------------	---------------------------	---------------------------

	Alternatives	TOTAL	LANDUSE	ROADNET	PROXIMIT	DENSITY
			.4914	.0937	.2689	.1460
1	Commercial	1.000	COMMERCIAL	GRID	NEAR	HIGH
2	Residential	0.668	RESIDENT	GRID	NEAR	MEDIUM
3	Public	0.514	PUBLIC	GRID	NEAR	LOW
4						
5						
6						
7						
8						
9						
10						

- Save the ratings as “filename.wk1”.

RATINGS: C:\ECPRO\NEARBUFF - [Rate / Cost]

File Edit View Plot Data Window Help

Open Close Save Backup to zip file Delete Print Print Setup... Extract to pairwise comparison model Evaluation/Choice

1 NEARBUFF.EC1
2 ICECREM1.EC1
3 ICECREM3.EC1
Exit

Next Refresh

VACANT
4 (.066)

TOTAL	LANDUSE	ROADNET	PROXIMIT	DENSITY
.000	COMMERCI	GRID	NEAR	HIGH
0.668	RESIDENT	GRID	NEAR	MEDIUM
0.514	PUBLIC	GRID	NEAR	LOW

- Open the saved file “filename.wk1” in Microsoft Excel.

Open

Look in: Desktop

My Computer
Network Neighborhood
Nearbuff.wk1

Open
Cancel
Advanced...

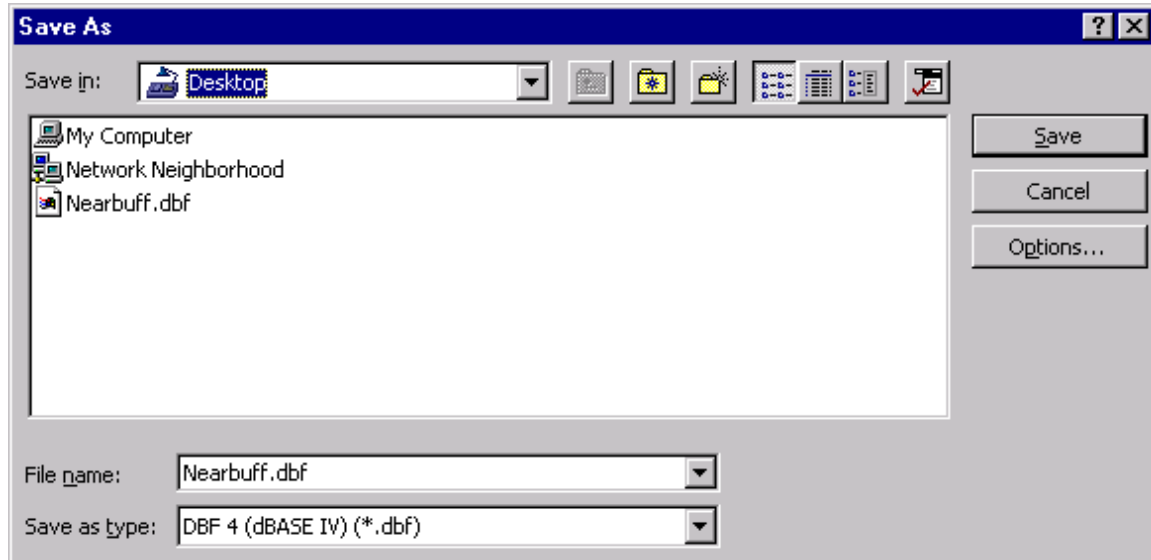
Find files that match these search criteria:

File name: Text or property: Find Now

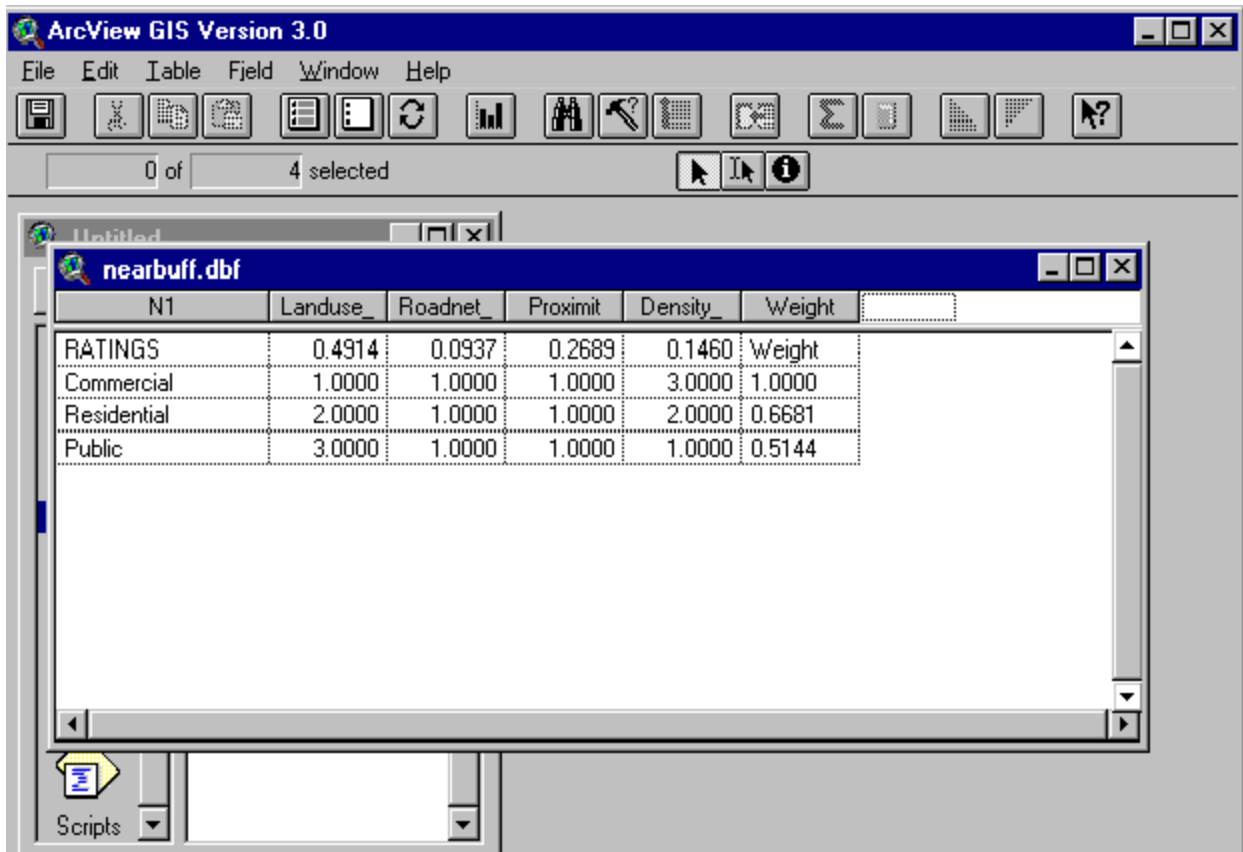
Files of type: Lotus 1-2-3 Files (*.wk?) Last modified: any time New Search

1 file(s) found.

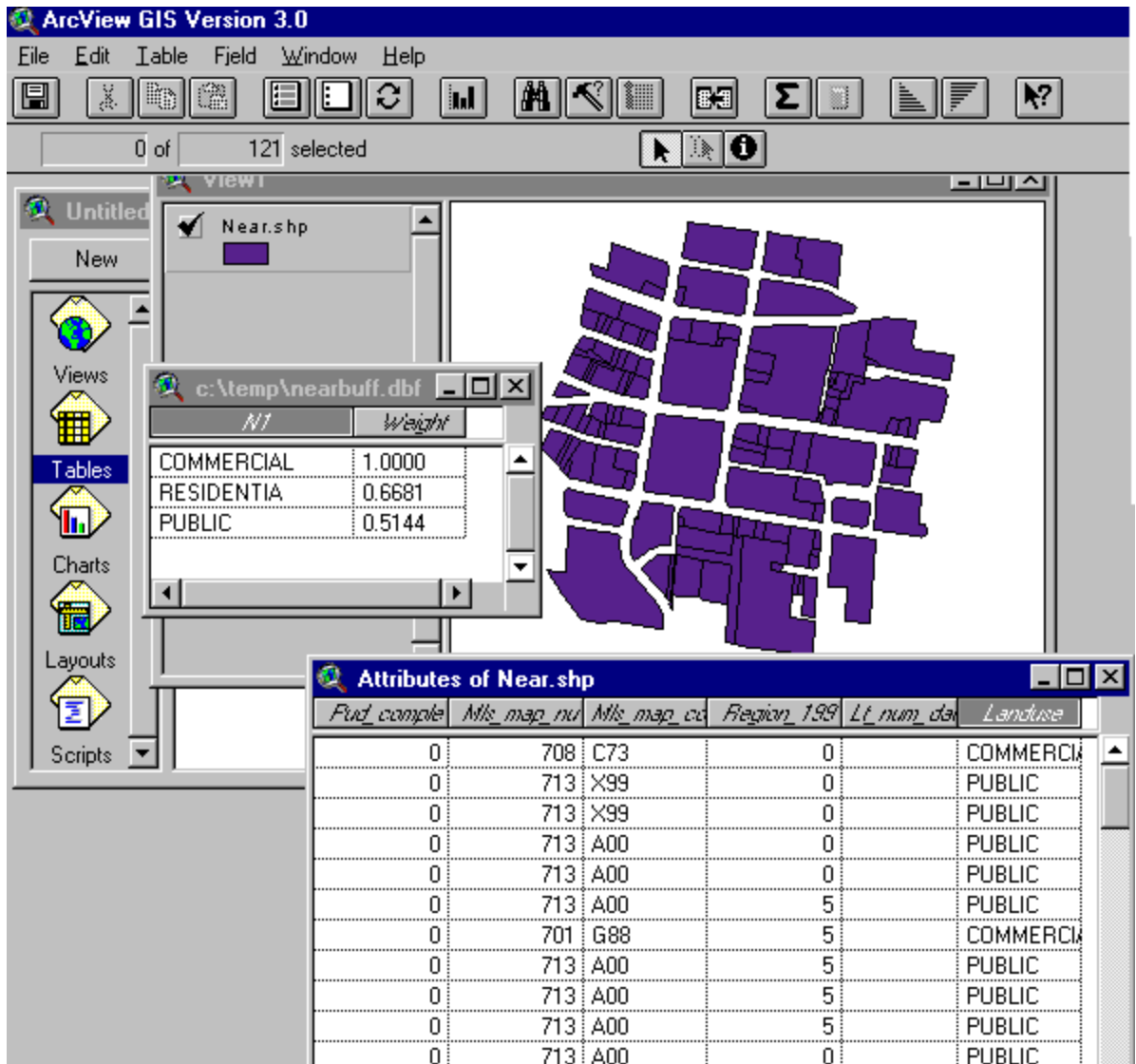
- Save the file as “filename.dbf” using the save as function in Microsoft Excel. The database file is ready for importing into ArcView.



- In ArcView activate the theme to which the “filename.dbf” file is to be imported. Under project, click on Add table menu to retrieve the “filename.dbf” file.



- Open the table for the activated theme. Select the joining field of the “filename.dbf” file and then select the joining field of the activated theme table.
(In this case the joining field should have similar entries so as to allow matching between the tuples).



- Click on the join submenu under Table menu. This will add all the fields in “filename.dbf” to the activated theme table. Using the newly added weight field, the user can create a suitability theme. If the user is interested only in the weight field of the Expert Choice table it is recommended that all other fields except the weight and the unique field (joining field) should be deleted before joining.

ArcView GIS Version 3.0

File Edit Table Field Window Help

0 of 121 selected

view1

Legend for Near.shp:

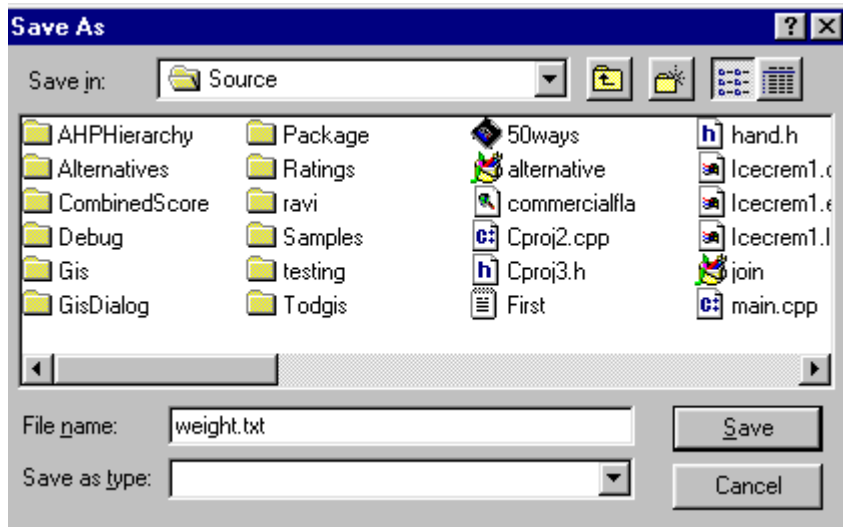
- 0.5144 (Grey)
- 0.6681 (Red)
- 1.0000 (Green)

Attributes of Near.shp

<i>Mls_map_nu</i>	<i>Mls_map_co</i>	<i>Region_199</i>	<i>Lt_num_da</i>	<i>Landuse</i>	<i>Weight</i>
708	C73	0		COMMERCIA	1.0000
713	X99	0		PUBLIC	0.5144
713	X99	0		PUBLIC	0.5144
713	A00	0		PUBLIC	0.5144
713	A00	0		PUBLIC	0.5144
713	A00	5		PUBLIC	0.5144
701	G88	5		COMMERCIA	1.0000
713	A00	5		PUBLIC	0.5144
713	A00	5		PUBLIC	0.5144
713	A00	5		PUBLIC	0.5144
713	A00	5		PUBLIC	0.5144
713	A00	0		PUBLIC	0.5144

Merging AHP(C++) with ArcView

- Perform Pairwise Comparison, Ratings and finally Alternatives to compute the weight of a particular case. Save the output into a textfile when prompted.

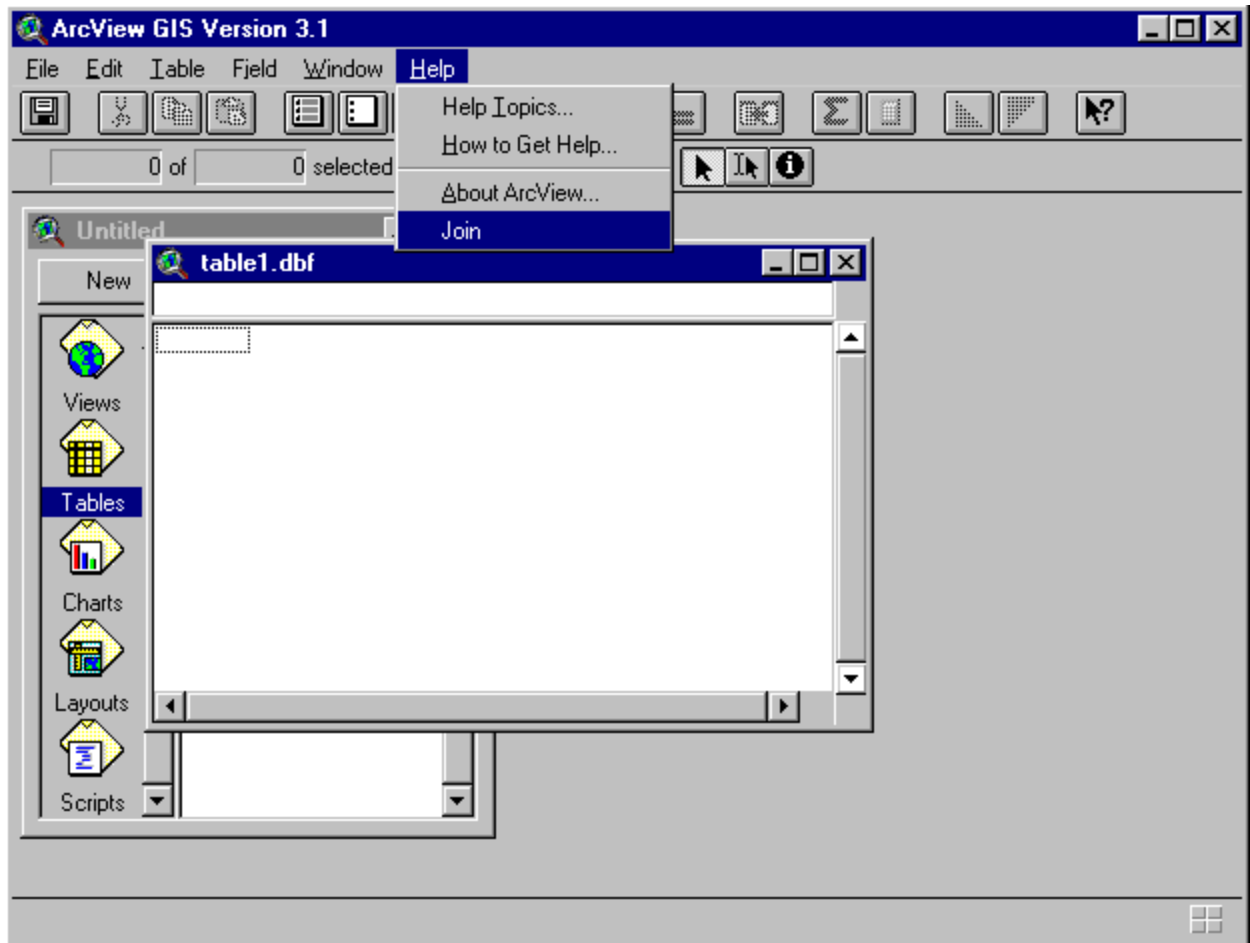


- Open the ArcView project and retrieve the script which converts a text file data into a .dbf file. (See below).
 - Create a submenu under Help menu in ArcView called “Join”.
 - Associate the script, which converts the text file into a .dbf file with “Join” submenu. (For details as to associating menu in ArcView refer to Avenue manual.)



- Run the script by clicking the newly created submenu “Join” to obtain AHP (C++) output in ArcView table format.

The execution of the “Join” script only creates a .dbf file, which can be used for actual merging with GIS database as explained below.



Assume that the name of the database file obtained in the previous step is “filename.dbf”. Add the theme to which the “filename.dbf” file is to be imported. Under project, click on Add table menu to retrieve the “filename.dbf” file. Open the table for the activated theme. Select the joining field of the “filename.dbf” file and then select the joining field of the activated theme table. Since the script assigns a generic name (Heading) to all join fields it creates, make sure that the join field you select is the one with common values in both tables. Click on the join submenu under Table menu. This will add all the fields in “filename.dbf” to the activated theme table.

Using the newly added weight field, the user can create a suitability theme. This will permit both graphic and tabular display.

Land use suitability ratings for an urban TOD by distance from LRT station.

