

Course Materials from Advanced GAMS Class
Using a Library in the IDE

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Using a Library in the IDE

Concept

In teaching GAMS classes in prior years I have had trouble with people accessing the right files. The IDE's project directory and my file directory structure coupled with similar or duplicate names for files across different directories with similar but not exact content caused problems.

This led to a class library manager development project between myself and Paul van der Eijk and Alex Meeraus at GAMS. [The result is that a Windows Explorer like library manager has been developed.](#)

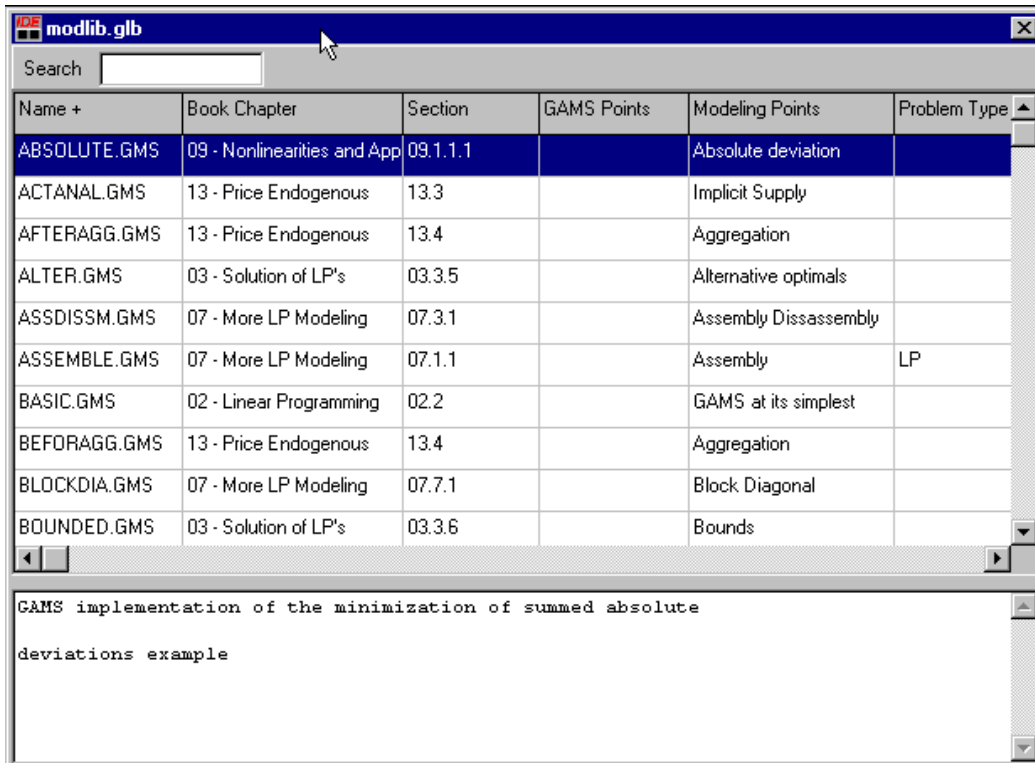
[These notes cover use of the library manager](#) while [parallel notes cover how you can create your own library.](#)

Note this is brand new and requires that you have version 2.07 of the GAMSIDE which will be released no sooner than early July, 2000. Also improvements continue, thus these notes may differ slightly from the library manager in the software you receive.

Using a Library in the IDE

Basic Idea

Once the **Library manager is invoked** you get a screen like the following

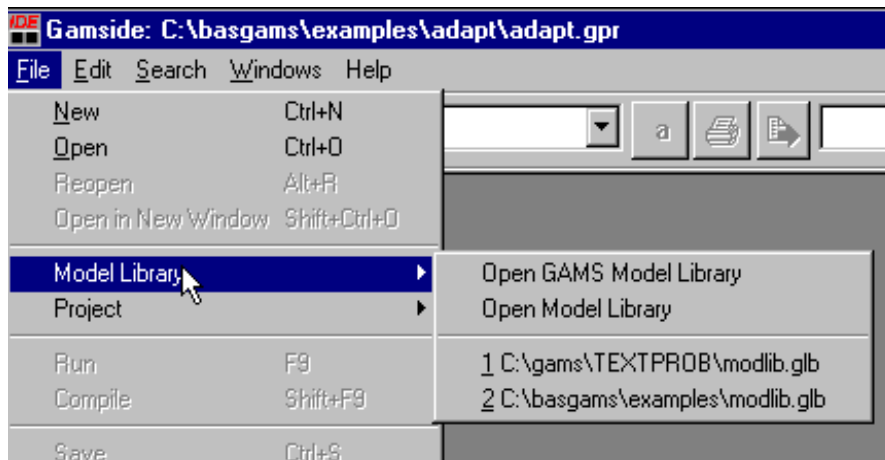


Grid is a scrollable list of files with column entries describing file attributes. Bottom is a more lengthy description of file at hand. **Double clicking in a row causes the file to be loaded in the IDE for editing and into your project directory.** Also **all files it includes** and any files the library creator nominated are placed in project directory.

Using a Library in the IDE

Opening a Library

When one wished to open up a library go to the file menu and choose the **Model Library Option**



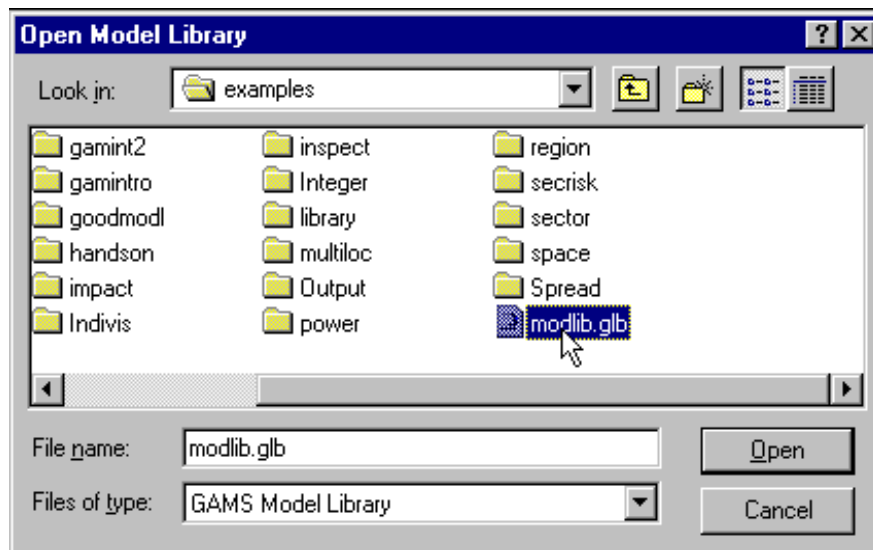
In turn you can choose to

- 1) Open the **GAMS Model Library**
- 2) Browse for a **User Model Library**
- 3) Open a **User Model Library that has been previously accessed** (the 1 and 2 choices in the right-hand window extension above)

Using a Library in the IDE

Browsing for a Library

If you choose to **Browse** you use a typical file dialogue box and must identify a **file with a glb extension** that has been specially defined with library contents.



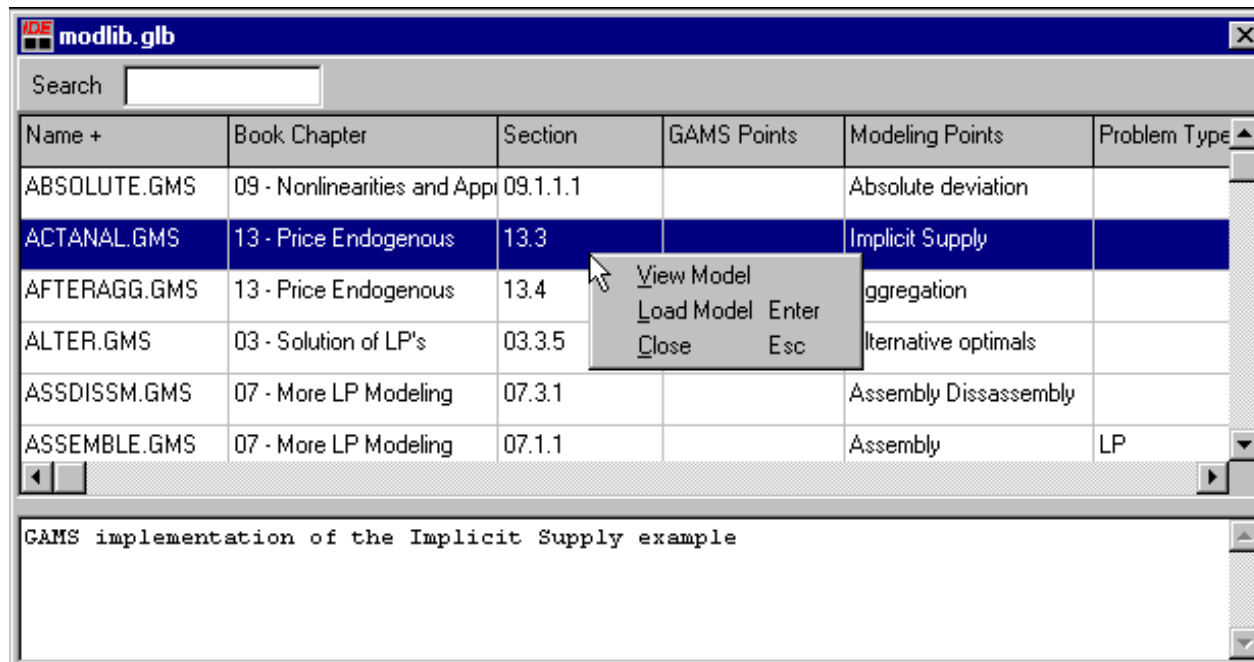
Such files are **not typically distributed** with the GAMS system (other than the one for the GAMS model library) and must be obtained or created especially for this purpose.

The parallel notes on creating a library cover how to create such files.

Using a Library in the IDE

Previewing Files

Once Library manager has opened a **right Mouse click** on a row for a file causes a pop up menu to arise

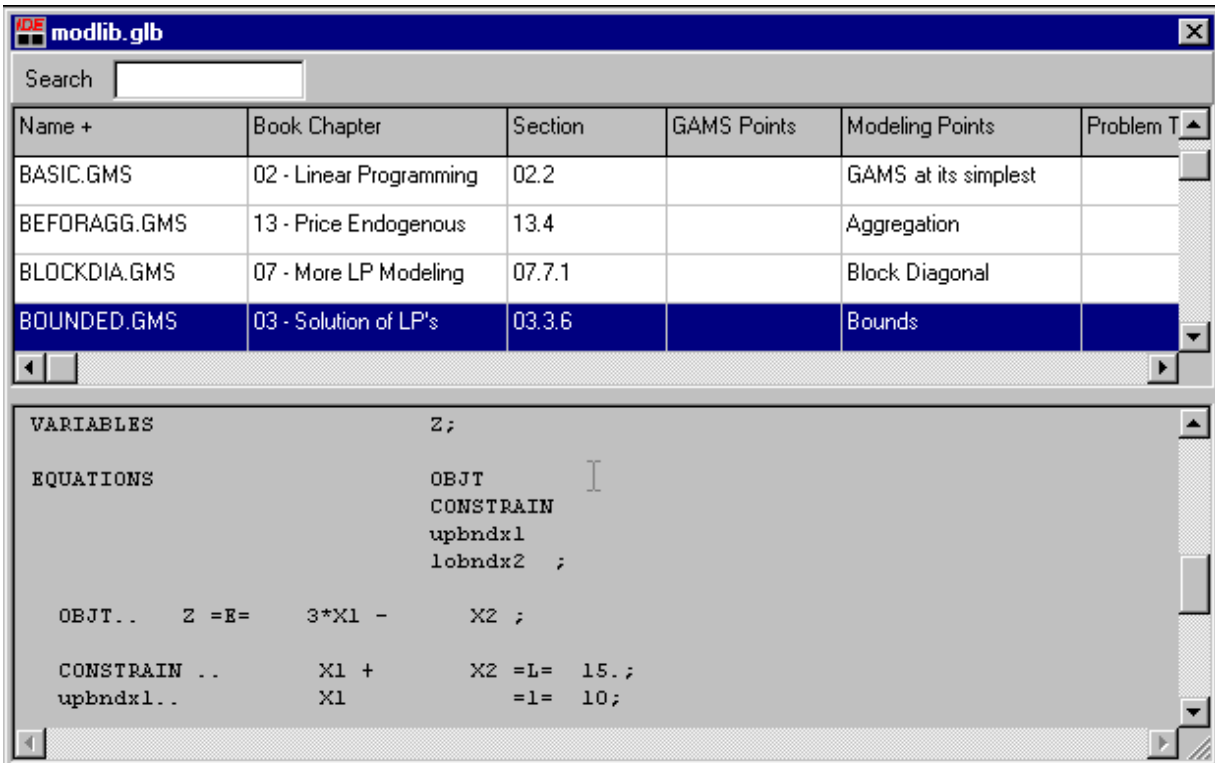


If you choose the **first option** you can **preview the file** before loading it

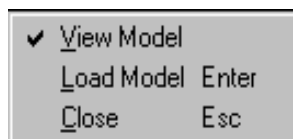
Using a Library in the IDE

Previewing Files

The lower screen contains the file (in gray box). The screen is resizable by mouse and I have resized it



A right click while viewing the file brings up the pop up menu and the file can be loaded into the IDE
When previewing you get back to the description simply uncheck the view option (with a mouse click)



Using a Library in the IDE

Rearranging Files

A mouse click on the **gray boxes at the top** causes the library to be **sorted by that attribute**.

Thus if you want to see all the files for a book chapter then click on that column and the files will be sorted in order by chapter then go find the chapter that you want

Name	Book Chapter +	Section	GAMS Points	Modeling Points	Problem Type
DUAL1.GMS	04 - Duality	04.1		Duality	
DUAL2.GMS	04 - Duality	04.3		Non Standard Primal	
PRIMAL1.GMS	04 - Duality	04.1		Duality	
PRIMAL2.GMS	04 - Duality	04.3		Non Standard Primal	
DIET.GMS	05 - LP Modeling	05.4.1	Looped solves	Diet	
DUALDIET.GMS	05 - LP Modeling	05.4.1		Diet	
DUALJNT.GMS	05 - LP Modeling	05.5.1		Joint Products	LP
DUALTRAN.GMS	05 - LP Modeling	05.3.1		Transportation	LP
JOINT.GMS	05 - LP Modeling	05.5.1		Joint Products	LP
RESOURC1.GMS	05 - LP Modeling	05.2.1	Calculated data	Resource Allocation	

Clicking on that column again reverses the sort order.

Using a Library in the IDE

Rearranging Files

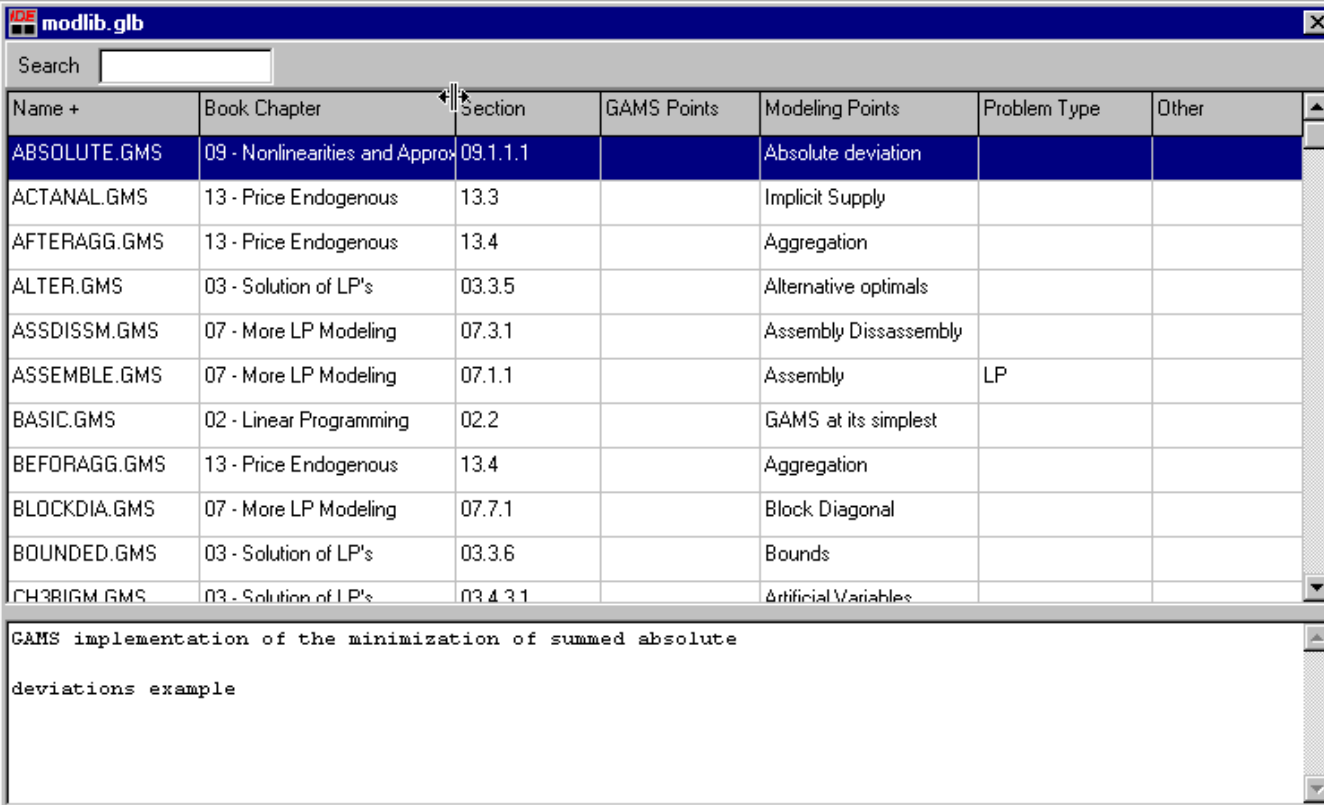
Also note that for a **secondary sort key** the library remembers the **previous columns you have sorted** on so if you first click on name then chapter you get the files arranged in an alphabetical order in a chapter but if you sorted on modeling points then most recently on chapter they would be sorted by modeling points.

Contrast the screen shot below with the previous page, noting the order of the files in chapter 5.

Name	Book Chapter +	Section	GAMS Points	Modeling Points	Problem Ty
SIMPGAMS.GMS	05 - LP Modeling	05.6	Input comparison	Computer Input	LP
DIET.GMS	05 - LP Modeling	05.4.1	Looped solves	Diet	
DUALDIET.GMS	05 - LP Modeling	05.4.1		Diet	
DUALJNT.GMS	05 - LP Modeling	05.5.1		Joint Products	LP
JOINT.GMS	05 - LP Modeling	05.5.1		Joint Products	LP
RESOURC1.GMS	05 - LP Modeling	05.2.1	Calculated data	Resource Allocation	
RESOURCE.GMS	05 - LP Modeling	05.2.1		Resource Allocation	
DUALTRAN.GMS	05 - LP Modeling	05.3.1		Transportation	LP
TRANSPORT.GMS	05 - LP Modeling	05.3.1		Transportation	
COLLAPSE.GMS	06 - Toward Proper Modelir	06.4.6.1		Alternative Objective func	LP

Using a Library in the IDE Changing Appearance

Change **column widths, allocation of top and bottom screen parts and window size** just as in other programs **through use of the mouse**. The IDE will **remember some but not all** of your choices.



The screenshot shows a window titled 'modlib.glb' with a search bar and a table of library entries. The table has columns for Name, Book Chapter, Section, GAMS Points, Modeling Points, Problem Type, and Other. Below the table is a text area containing the text: 'GAMS implementation of the minimization of summed absolute deviations example'.

Name +	Book Chapter	Section	GAMS Points	Modeling Points	Problem Type	Other
ABSOLUTE.GMS	09 - Nonlinearities and Approx	09.1.1.1		Absolute deviation		
ACTANAL.GMS	13 - Price Endogenous	13.3		Implicit Supply		
AFTERAGG.GMS	13 - Price Endogenous	13.4		Aggregation		
ALTER.GMS	03 - Solution of LP's	03.3.5		Alternative optimals		
ASSDISSM.GMS	07 - More LP Modeling	07.3.1		Assembly Disassembly		
ASSEMBLE.GMS	07 - More LP Modeling	07.1.1		Assembly	LP	
BASIC.GMS	02 - Linear Programming	02.2		GAMS at its simplest		
BEFORAGG.GMS	13 - Price Endogenous	13.4		Aggregation		
BLOCKDIA.GMS	07 - More LP Modeling	07.7.1		Block Diagonal		
BOUNDED.GMS	03 - Solution of LP's	03.3.6		Bounds		
CH3RIGM.GMS	03 - Solution of LP's	03.4.3.1		Artificial Variables		

GAMS implementation of the minimization of summed absolute deviations example

Using a Library in the IDE

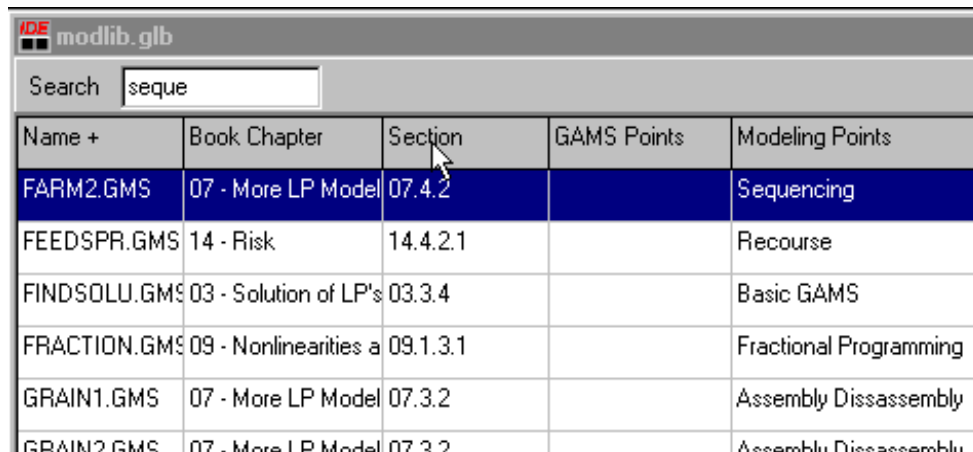
Searching for items

When using the library one may wish to search for particular file names or items in the descriptions.

This is done through the search box at the top.

When one types in characters the search finds the first file with those characters in any field or the description as the characters are typed in .

Thus it may find a sting like sequencing after seque is typed in.



The screenshot shows a window titled 'IDE modlib.glb' with a search box containing the text 'seque'. Below the search box is a table with the following columns: Name +, Book Chapter, Section, GAMS Points, and Modeling Points. The table lists several files, with the first row highlighted in blue.

Name +	Book Chapter	Section	GAMS Points	Modeling Points
FARM2.GMS	07 - More LP Model	07.4.2		Sequencing
FEEDSPR.GMS	14 - Risk	14.4.2.1		Recourse
FINDSOLU.GMS	03 - Solution of LP's	03.3.4		Basic GAMS
FRACTION.GMS	09 - Nonlinearities a	09.1.3.1		Fractional Programming
GRAIN1.GMS	07 - More LP Model	07.3.2		Assembly Disassembly
GRAIN2.GMS	07 - More LP Model	07.3.2		Assembly Disassembly

Subsequent entries are found using the down arrow and previous using the up arrow