

GAMS Code that sends data to HTML files and Excel
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I have written code that will put a GAMS parameter or set into an HTML table or an Excel file exercising control over the ordering of the sets and the distribution across rows and columns.

Specifically the code will

- Take data from an up to 20 dimensional table and place it in tabular form into HTML format or Excel.
- Allow one to manipulate the set placement across the rows and columns of the HTML tables or Excel sheet such that for example when working with $a(i,j)$ one can cause the j elements to be in HTML table or Excel rows and the i elements in the columns. Similarly given $x(i,j,k)$ one can choose to set up the table so it varies either one or two of the sets i , j and k in the rows with the remaining set being varied across columns
- Allows when working with a multi dimensional table to put out a separate table for each element of a selected set or sets.
- Take data from a 1 dimensional item and put it in a table as a vector.

to put out table $x(i,j,k)$ you use

```
$batinclude put_tohtml 2 1 x (I,j,k) k i j
```

or

```
$batinclude put_toexcel 1 2 x (I,j,k) j i k workbook sheetname
```

or

```
loop(i,  
$      batinclude put_tohtml 1 1 x (I,j,k) j i  
);
```

or in general

```
$batinclude put_tohtml n1 n2 array (arrayargs) sets_in_order
```

```
$batinclude put_toexcel n1 n2 array(arrayargs) sets_in_order workbook sheetname
```

where

n1 is number of sets to vary in rows (above first batinclude has 2 second one 1)

n2 is number of sets to vary in columns (above first batinclude has 1 second one 2)

Note $n1+n2$ must equal the number of uncontrolled items in array (above first 2 batinclude have this =3 but third has it =2 since the set i is controlled by loop(i,)

array is the name of item (set or parameter, perhaps a variable or equation)

Note this must be followed by a space

arrayargs the sets the array is to be varied over

Note this must be encased in parentheses separated by commas with no spaces. If you cite specific elements you must use single quotes

sets_in_order the sets to be varied in whatever order is desired

Note the first n1 items are put in rows and then next n2 are put in columns. Thus there must be n1+n2 items. These must be separated by spaces. They can appear in any order. Thus k j i is allowed and under n1=2 and n2=1 would put k and j in rows and i in the column.

workbook is the name of the workbook where the data are placed when excel is being used.

Note the workbook must be closed when the program runs

sheetname is the name of the sheet within the workbook where the data are placed when excel is being used.

Additional Notes

- When using HTML accompanying files must also be present (**put_htmlcodes.gms**) that contains definitions of the HTML codes. Users wishing to go to XML or other features can just change these codes. An untested version of this supplies code to generate a CSV.
- The user must define a put file and authorize its use where the HTML data are to be placed.
- The first call of this code must be outside of a loop and can just call without arguments (\$batinclude put_tohtml or \$batinclude put_toexcel).
- It is easy to make a mistake particularly omitting the space between the arrayname and the arguments. Use the LST file to get a clue where this is.
- When going to HTML files there are a couple of parameters that can be used
 - Tl_or_te can be set to zero to put emlemen names and 1 to put out explanatory text
 - Decimalsiwant tells how many decimals to put the information out with
- When going to Excel you need to define excelrownumber as the row number where the data will be put. As of now all data are placed in column A. Note during program operation excelrownumber is increased automatically so the next write to the same sheet would occur below the last one
- When writing to Excel note when a parameter is saved that it will clear out the worksheet from the row where the statement is started to the bottom. The programming of GDXXRW does not do this for sets
- The program can be used to save parameters or sets. When a one dimensional set it to be put out one uses a call of the form

```
$batinclude put_tohtml 1 0 setname
$batinclude put_toexcel 1 0 setname workbook sheetname
```
- Html jumps are also resident in the files but not documented [here](#). These are documented in the McCarl GAMS classes.

The GAMS code and this [writeup](#) are in a zip file [here](#). Examples are inside the zip file and are called puthtmltables1.gms and putexcelexample.gms.