
AIMMS Function Reference - Execution State Related Identifiers

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Execution State Related Identifiers

The following collection of predefined identifiers contains information about the current state of the AIMMS execution engine.

- `AllGeneratedMathematicalPrograms`
- `CurrentAutoUpdatedDefinitions`
- `CurrentErrorMessage`
- `CurrentFile`
- `CurrentFileName`
- `CurrentInputs`
- `CurrentMatrixBlockSizes`
- `CurrentMatrixColumnCount`
- `CurrentMatrixRowCount`
- `CurrentPageNumber`
- `ODBCDateTimeFormat`

AllGeneratedMathematicalPrograms

The predefined set `AllGeneratedMathematicalPrograms` contains the names of all generated mathematical programs associated with the symbolic mathematical programs in an AIMMS model.

```
SET:
  identifier : AllGeneratedMathematicalPrograms
  index      : IndexGeneratedMathematicalPrograms
  parameter  : CurrentGeneratedMathematicalProgram ;
```

Definition:

- The contents of the set `AllGeneratedMathematicalPrograms` is the collection of all generated mathematical programs associated with symbolic mathematical programs in your model, and generated through the `SOLVE` statement, or the functions `GMP::Instance::Generate` and `GMP::Instance::CreateDual`.
- The element parameter `CurrentGeneratedMathematicalProgram` refers to the currently active generated mathematical program instance.

Updatability:

The contents of the set can only be modified through the `SOLVE` statement, and the functions `GMP::Instance::Generate`, `GMP::Instance::Copy`, `GMP::Instance::Rename`, `GMP::Instance::Delete` and `GMP::Instance::CreateDual`.

See also:

The function `GMP::Instance::Generate`, `GMP::Instance::Copy`, `GMP::Instance::Rename`, `GMP::Instance::Delete` and `GMP::Instance::CreateDual`.

CurrentAutoUpdatedDefinitions

The predefined set `CurrentAutoUpdatedDefinitions` contains the names of the defined identifiers whose values are updated automatically upon change of their input values when displayed in the graphical end-user interface.

```
SET:
  identifier   : CurrentAutoUpdatedDefinitions
  subset of   : AllIdentifiers
  index       : IndexCurrentAutoUpdatedDefinitions
  initial data : AllDefinedSets + AllDefinedParameters ;
```

Definition:

The set `CurrentAutoUpdatedDefinitions` contains the names of the defined identifiers whose values are updated automatically upon change of their input values when displayed in the graphical end-user interface.

Updatability:

The contents of `CurrentAutoUpdatedDefinitions` can be modified programmatically from within an AIMMS model. The set cannot be modified from within the end-user interface.

Remarks:

By default, all defined parameters and sets are immediately updated in a graphical display whenever their input values are modified. In some cases, however, this behavior can be unwanted, for instance if each single data change by an end-user leads to a long re-evaluation of a defined identifier which is also displayed on the same page. In such cases, you can remove the defined identifier at hand from the set `CurrentAutoUpdatedDefinitions` and explicitly update the identifier when you see fit, either by calling the `UPDATE` statement, or by updating the identifier on page entry, upon data change, or through a button action.

See also:

The sets `AllIdentifiers`, `CurrentInputs`. The `UPDATE` statement and the set `CurrentAutoUpdatedDefinitions` are discussed in more detail in Section 7.3 of the Language Reference.

CurrentErrorMessage

The predefined string parameter `CurrentErrorMessage` contains a description of the last runtime error that occurred during the execution of an AIMMS model.

```
STRING PARAMETER:  
  identifier : CurrentErrorMessage ;
```

Definition:

The string parameter `CurrentErrorMessage` contains a description of the last runtime error that occurred during the execution of an AIMMS model. It also contains the error message associated with errors occurring in AIMMS interface functions.

Updatability:

The value of `CurrentErrorMessage` can be modified programmatically from within an AIMMS model. Its value cannot be modified from within the end-user interface.

Remarks:

- AIMMS never clears the contents `CurrentErrorMessage`, but only updates its value whenever an error occurs.
- When AIMMS is called through the AIMMS API, `CurrentErrorMessage` is the only way to retrieve a description of the last AIMMS runtime error when an execution request failed.

See also:

Error handling in the AIMMS API is discussed in more detail in [Section 32.7](#) of the Language Reference. Error messages from interface functions are discussed in [Section 19.4](#) from the User's Guide.

CurrentFile

The predefined element parameter `CurrentFile` contains the name of the file identifier to which output is currently directed.

```
ELEMENT PARAMETER:
  identifier  : CurrentFile
  range      : AllFiles ;
```

Definition:

The element parameter `CurrentFile` contains the name of the file identifier to which output from the `PUT` and `DISPLAY` statements is currently directed.

Updatability:

The value of `CurrentFile` can be modified both programmatically from within the AIMMS model and from within the end-user interface. As a result, the output from subsequent `PUT` and `DISPLAY` statements will be redirected to the newly specified file identifier.

Remarks:

Output redirection can equivalently be accomplished using the `PUT` statement. The name of the physical file or window associated with a file identifier can be retrieved through the string parameter `CurrentFileName`.

See also:

The string parameter `CurrentFileName`. The `PUT` statement is discussed in Section [29.2](#) of the Language Reference, the `DISPLAY` statement in Section [29.3](#).

CurrentFileName

The predefined string parameter `CurrentFileName` contains the file name associated with the file identifier to which output is currently directed.

```
STRING PARAMETER:  
    identifier : CurrentFileName ;
```

Definition:

The string parameter `CurrentFileName` contains the file name associated with the file identifier (as specified in its `NAME` attribute) to which output from the `PUT` and `DISPLAY` statements is currently directed.

Updatability:

The value of `CurrentFileName` is only for display purposes. It can be modified programmatically from within the AIMMS model, but the output from `PUT` and `DISPLAY` will always be sent to the file or window whose name is specified in the `NAME` attribute of the corresponding file identifier.

Remarks:

The physical file name associated with a file identifier can be changed dynamically, by entering a string parameter in the `NAME` attribute of the file identifier. The file identifier to which output is currently directed can be retrieved through the element parameter `CurrentFile`.

See also:

The element parameter `CurrentFile`. File identifiers are discussed in Section 29.1 of the Language Reference.

CurrentInputs

The predefined set `CurrentInputs` contains the names of the identifiers which can actually be modified from within the graphical end-user interface.

```
SET:
  identifier   : CurrentInputs
  subset of   : AllUpdatableIdentifiers
  index       : IndexCurrentInputs
  initial data : AllUpdatableIdentifiers ;
```

Definition:

The set `CurrentInputs` contains the names of the model identifiers that can actually be modified from within the graphical end-user interface of AIMMS.

Updatability:

The contents of `CurrentInputs` can be modified programmatically from within an AIMMS model. The set cannot be updated from within the end-user interface.

Remarks:

- The set `AllUpdatableIdentifiers` determines which identifiers are updatable *in principle*. Therefore, you can only add identifiers to `CurrentInputs` which are already contained in the set `AllUpdatableIdentifiers`
- By default, variables are considered not updatable by AIMMS, and cannot be modified from within the end-user interface. If you want to allow your end-users to update some or all variables from within the end-user interface, you can accomplish this by adding these variables to both the sets `AllUpdatableIdentifiers` and `CurrentInputs`.

See also:

The sets `AllIdentifiers`, `CurrentInputs`.

CurrentMatrixBlockSizes

The predefined parameter `CurrentMatrixBlockSizes` contains the number of non-zeros for the last mathematical program generated.

```
PARAMETER:  
  identifier : CurrentMatrixBlockSizes  
  index domain : (IndexConstraints, IndexVariables) ;
```

Definition:

The parameter `CurrentMatrixBlockSizes` contains the number of non-zeros for the last mathematical program generated. The parameter counts the non-zeros in all generated rows of a particular *symbolic* constraint with respect to all generated columns of a particular *symbolic* variable.

Remarks:

- You can use the parameter `CurrentMatrixBlockSizes`, for example, to analyze which constraint-variable sub-block of the generated matrix accounts for a number of non-zeros in a mathematical program that appears to be unnaturally high.
- The parameters `CurrentMatrixRowCount`, `CurrentMatrixColumnCount` and `CurrentMatrixBlockSizes` are only set when the AIMMS option **Solvers General - Matrix Generation - Matrix Block Sizes** is set to on.

See also:

The sets `CurrentMatrixColumnCount`, `CurrentMatrixRowCount`.

CurrentMatrixColumnCount

The predefined parameter `CurrentMatrixColumnCount` contains the number of columns for the last mathematical program generated.

```
PARAMETER:  
  identifier : CurrentMatrixColumnCount  
  index domain : IndexVariables ;
```

Definition:

The parameter `CurrentMatrixColumnCount` contains the number of columns for the last mathematical program generated. The parameter counts the columns generated for each individual *symbolic* variable.

Remarks:

- You can use the parameter `CurrentMatrixColumnCount`, for example, to analyze which symbolic variable accounts for a number of columns in a mathematical program that appears to be unnaturally high.
- The parameters `CurrentMatrixRowCount`, `CurrentMatrixColumnCount` and `CurrentMatrixBlockSizes` are only set when the AIMMS option **Solvers General - Matrix Generation - Matrix Block Sizes** is set to on.

See also:

The sets `CurrentMatrixRowCount`, `CurrentMatrixBlockSizes`.

CurrentMatrixRowCount

The predefined parameter `CurrentMatrixRowCount` contains the number of rows for the last mathematical program generated.

```
PARAMETER:  
  identifier : CurrentMatrixRowCount  
  index domain : IndexConstraints ;
```

Definition:

The parameter `CurrentMatrixRowCount` contains the number of rows for the last mathematical program generated. The parameter counts the rows generated for each individual *symbolic* constraint.

Remarks:

- You can use the parameter `CurrentMatrixRowCount`, for example, to analyze which symbolic constraint accounts for a number of rows in a mathematical program that appears to be unnaturally high.
- The parameters `CurrentMatrixRowCount`, `CurrentMatrixColumnCount` and `CurrentMatrixBlockSizes` are only set when the AIMMS option **Solvers General - Matrix Generation - Matrix Block Sizes** is set to on.

See also:

The sets `CurrentMatrixColumnCount`, `CurrentMatrixBlockSizes`.

CurrentPageNumber

The predefined parameter `CurrentPageNumber` contains current page number used by AIMMS when printing print pages.

```
PARAMETER:  
  identifier : CurrentPageNumber ;
```

Definition:

The predefined parameter `CurrentPageNumber` contains current page number used by AIMMS when printing print pages.

Updatability:

AIMMS will automatically reset the value `CurrentPageNumber` to 1 at the following times:

- before printing a print page using the **File-Print** menu,
- before printing a print page using the `PrintPage` function outside of a pair of calls to the functions `PrintStartReport` and `PrintEndReport`, and
- just after calling the function `PrintStartReport`.

The value of `CurrentPageNumber` can be modified programmatically from within the AIMMS model.

Remarks:

According to the list of rules above, modifying the value of `CurrentPageNumber` will only have an effect of the page numbers printed on print pages within a pair of calls to `PrintStartReport` and `PrintEndReport`.

See also:

The functions `PrintPage`, `PrintStartReport`, `PrintEndReport`. Print pages are discussed in Section 14.1 of the User's Guide, print functions are discussed in more detail in Section 19.4.2.

ODBCDateTimeFormat

The predefined string parameter `ODBCDateTimeFormat` defines, for each identifier within an AIMMS model, the date-time conversion string.

```
STRING PARAMETER:  
  identifier : ODBCDateTimeFormat  
  index domain : IndexIdentifiers ;
```

Definition:

The string parameter `ODBCDateTimeFormat` defines, for each identifier within an AIMMS model, the date-time format string, which AIMMS will use in converting AIMMS data to date-time columns in a database table and vice versa.

Updatability:

The data of `ODBCDateTimeFormat` can be modified both from within the model and the end-user interface.

Remarks:

The use of `ODBCDateTimeFormat` to convert AIMMS data to date-time columns and vice versa, are not necessary for columns which are mapped onto AIMMS calendars. In that case, AIMMS is able to determine the conversion itself based on the timeslot format specified for the calendar.

See also:

The use of `ODBCDateTimeFormat` is discussed in more detail in Section [25.8](#) of the Language Reference. The format to which values of `ODBCDateTimeFormat` should comply are discussed in Section [31.7](#).