**mata describe — Describe contents of Mata’s memory**

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**Syntax**

:mata describe **[namelist]** **[, all]**

:mata describe using **libname**

where **namelist** is as defined in [M-3] namelists. If **namelist** is not specified, “* *()” is assumed.

This command is for use in Mata mode following Mata’s colon prompt. To use this command from Stata’s dot prompt, type

`. mata: mata describe ...`

**Description**

**mata describe** lists the names of the matrices and functions in memory, including the amount of memory consumed by each.

**mata describe using libname** describes the contents of the specified .mlib library; see [M-3] mata mlib.

**Option**

**all** specifies that automatically loaded library functions that happen to be in memory are to be included in the output.

**Remarks and examples**

**mata describe** is often issued without arguments, and then everything in memory is described:

```
: mata describe
# bytes type name and extent
  50   real matrix foo()
1,600 real matrix X[10,20]
  8   real scalar x
```
mata describe using `libname` lists the functions stored in a `.mlib` library:

: mata describe using lmatabase

<table>
<thead>
<tr>
<th># bytes</th>
<th>type</th>
<th>name and extent</th>
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<tbody>
<tr>
<td>508</td>
<td>auto structdef scalar</td>
<td>AsArray_char()</td>
</tr>
<tr>
<td>188</td>
<td>auto structdef scalar</td>
<td>AsArray_dup()</td>
</tr>
<tr>
<td>312</td>
<td>auto structdef scalar</td>
<td>AsArray_top()</td>
</tr>
<tr>
<td>984</td>
<td>auto numeric vector</td>
<td>Corr()</td>
</tr>
<tr>
<td>864</td>
<td>auto numeric vector</td>
<td>Corrslowly()</td>
</tr>
<tr>
<td>400</td>
<td>auto real matrix</td>
<td>Dmatrix()</td>
</tr>
<tr>
<td>340</td>
<td>auto real matrix</td>
<td>Hilbert()</td>
</tr>
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</table>

(output omitted)

672     auto transmorphic colvector vech()
184     auto real scalar        whether_ssd()

Diagnostics

The reported memory usage does not include overhead, which usually amounts to 64 bytes, but can be less (as small as zero for recently used scalars).

The reported memory usage in the case of pointer matrices reflects the memory used to store the matrix itself and does not include memory consumed by siblings.

Also see

[M-5] `sizeof()` — Number of bytes consumed by object

[M-3] `intro` — Commands for controlling Mata