

Description

Mata imposes limits, but those limits are of little importance compared with the memory requirements. Mata stores matrices in memory and requests the memory for them from the operating system.

Summary

Limits:

	Minimum	Maximum
Scalars, vectors, matrices		
rows	0	$2^{48} - 1$
columns	0	$2^{48} - 1$
String elements, length	0	2,147,483,647

Size approximations:

	Memory requirements
real matrices	$oh + r*c*8$
complex matrices	$oh + r*c*16$
pointer matrices	$oh + r*c*8$
string matrices	$oh + r*c*8 + total_length_of_strings$

where r and c represent the number of rows and columns and where oh is overhead and is approximately 64 bytes

Remarks and examples

Mata requests (and returns) memory from the operating system as it needs it, and if the operating system cannot provide it, Mata issues the following error:

```
: x = foo(A, B)
      <istmt>: 3499 foo() not found
r(3499);
```

Stata's `set min_memory` and `set max_memory` values (see [\[D\] memory](#)) play no role in Mata or, at least, they play no direct role.

Also see

[M-3] **mata memory** — Report on Mata's memory usage

[M-5] **mindouble()** — Minimum and maximum nonmissing value

[M-1] **Intro** — Introduction and advice

Stata, Stata Press, Mata, NetCourse, and NetCourseNow are registered trademarks of StataCorp LLC. Stata and Stata Press are registered trademarks with the World Intellectual Property Organization of the United Nations. StataNow is a trademark of StataCorp LLC. Other brand and product names are registered trademarks or trademarks of their respective companies. Copyright © 1985–2025 StataCorp LLC, College Station, TX, USA. All rights reserved.



For suggested citations, see the FAQ on [citing Stata documentation](#).