Mata is a matrix programming language that can be used by those who want to perform matrix calculations interactively and by those who want to add new features to Stata.

This entry describes this manual and what has changed since Stata 12.

This manual is divided into six sections. Each section is organized alphabetically, but there is an introduction in front that will help you get around.

If you are new to Mata, here is a helpful reading list. Start by reading

- [M-1] first: Introduction and first session
- [M-1] interactive: Using Mata interactively
- [M-1] how: How Mata works

You may find other things in section [M-1] that interest you. For a table of contents, see

- [M-1] intro: Introduction and advice

Whenever you see a term that you are unfamiliar with, see

- [M-6] Glossary: Mata glossary of common terms
Now that you know the basics, if you are interested, you can look deeper into Mata’s programming features:

[M-2] syntax Mata language grammar and syntax

[M-2] syntax is pretty dense reading, but it summarizes nearly everything. The other entries in [M-2] repeat what is said there but with more explanation; see

[M-2] intro Language definition

because other entries in [M-2] will interest you. If you are interested in object-oriented programming, be sure to see [M-2] class.

Along the way, you will eventually be guided to sections [M-4] and [M-5]. [M-5] documents Mata’s functions; the alphabetical order makes it easy to find a function if you know its name but makes learning what functions there are hopeless. That is the purpose of [M-4]—to present the functions in logical order. See

[M-4] intro Index and guide to functions

Mathematical
[M-4] matrix Matrix functions
[M-4] solvers Matrix solvers and inverters
[M-4] scalar Scalar functions
[M-4] statistical Statistical functions
[M-4] mathematical Other important functions

Utility and manipulation
[M-4] standard Functions to create standard matrices
[M-4] utility Matrix utility functions
[M-4] manipulation Matrix manipulation functions

Stata interface
[M-4] stata Stata interface functions

String, I/O, and programming
[M-4] string String manipulation functions
[M-4] io I/O functions
[M-4] programming Programming functions
What’s new

For a complete list of all the new features in Stata 13, see [U] 1.3 What’s new.

Also see

[M-1] first — Introduction and first session

[M-6] Glossary