

## Description

In this manual, you will find

- matrix-manipulation commands, which are available from the Stata command line and for ado-programming (for advanced matrix functions and a complete matrix programming language, see the *Mata Reference Manual*),
- commands for programming Stata, and
- commands and discussions of interest to programmers.

This manual is referred to as [P] in cross-references and is organized alphabetically.

If you are new to Stata's programming commands, we recommend that you first read the chapter about programming Stata in [U] **18 Programming Stata**. After you read that chapter, we recommend that you read the following sections from this manual:

[P] <b>program</b>	Define and manipulate programs
[P] <b>sortpreserve</b>	Sorting within programs
[P] <b>byable</b>	Making programs byable
[P] <b>macro</b>	Macro definition and manipulation

You should also see the *Combined subject table of contents for programming*, which immediately follows the *table of contents*.

We also recommend the Stata NetCourses. Our current offerings of Stata programming NetCourses include

NC-151 Introduction to Stata programming  
NC-152 Writing Your Own Stata Commands

To learn more about NetCourses and view the current offerings, visit <https://www.stata.com/netcourse/>.

Stata also offers classroom and web-based training courses. Visit <https://www.stata.com/training/classroom-and-web/> for details.

To learn about writing your own maximum-likelihood estimation commands, read the book *Maximum Likelihood Estimation with Stata*. Other Stata Press titles can be found at <https://www.stata-press.com>.

## References

- Baum, C. F. 2016. *An Introduction to Stata Programming*. 2nd ed. College Station, TX: Stata Press.
- Pitblado, J. S., B. P. Poi, and W. W. Gould. 2024. *Maximum Likelihood Estimation with Stata*. 5th ed. College Station, TX: Stata Press.

## Also see

[U] **18 Programming Stata**

[U] **1.3 What's new**

[R] **Intro** — Introduction to base reference manual

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