

Description
DiagnosticsSyntax
ReferenceRemarks and examples
Also see

Conformability

Description

Lmatrix(*n*) returns the $n(n+1)/2 \times n^2$ elimination matrix **L** for which $\mathbf{L} \cdot \text{vec}(\mathbf{X}) = \text{vech}(\mathbf{X})$, where \mathbf{X} is an $n \times n$ symmetric matrix.

Syntax

real matrix **Lmatrix**(*real scalar n*)

Remarks and examples

Elimination matrices are frequently used in computing derivatives of functions of symmetric matrices. Section 9.6 of [Lütkepohl \(1996\)](#) lists many useful properties of elimination matrices.

Conformability

Lmatrix(*n*):
 n: 1×1
 result: $n(n+1)/2 \times n^2$

Diagnostics

Lmatrix(*n*) aborts with error if *n* is less than 0 or is missing. *n* is interpreted as **trunc**(*n*).

Reference

Lütkepohl, H. 1996. *Handbook of Matrices*. New York: Wiley.

Also see

[M-5] **Dmatrix**() — Duplication matrix

[M-5] **Kmatrix**() — Commutation matrix

[M-5] **vec**() — Stack matrix columns

[M-4] **Standard** — Functions to create standard matrices

Stata, Stata Press, and Mata are registered trademarks of StataCorp LLC. Stata and Stata Press are registered trademarks with the World Intellectual Property Organization of the United Nations. StataNow and NetCourseNow are trademarks 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](#).

