

## Description

`logit( $X$ )` returns the log of the odds ratio of the elements of  $X$ ,  $\ln\{x/(1-x)\}$ .

`invlogit( $X$ )` returns the inverse of the `logit()` of the elements of  $X$ ,  $\exp(x)/\{1 + \exp(x)\}$ .

`cloglog( $X$ )` returns the complementary log–log of the elements of  $X$ ,  $\ln\{-\ln(1-x)\}$ .

`invcloglog( $X$ )` returns the elementwise inverse of `cloglog()` of the elements of  $X$ ,  $1 - \exp\{-\exp(x)\}$ .

## Syntax

*real matrix* `logit(real matrix  $X$ )`

*real matrix* `invlogit(real matrix  $X$ )`

*real matrix* `cloglog(real matrix  $X$ )`

*real matrix* `invcloglog(real matrix  $X$ )`

## Conformability

All functions return a matrix of the same dimension as input containing element-by-element calculated results.

## Diagnostics

`logit( $X$ )` and `cloglog( $X$ )` return missing when  $x \leq 0$  or  $x \geq 1$ .

## Also see

[M-4] **Statistical** — Statistical functions

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](#).

