

**logit()** — Log odds and complementary log–log[Description](#)[Syntax](#)[Conformability](#)[Diagnostics](#)[Also see](#)

## 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