Package ‘censNID’

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Title censored NID samples
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Description

MLE estimation using AS 138 for censored and confined normal.

Usage

cenNID(y, L=rep(-Inf, length(y)), U=rep(Inf, length(y)))
Arguments

y  observations
L  lower bound for each observation that is equal to -Inf when none, default -Inf
U  upper bound for each observation that is equal to Inf when none, default Inf

Value

a list with the following components:
est  matrix with mean and sd and their se
covMat  covariance matrix
nobs  number of complete observations
itercount  number of iterations
ifault  fault indicator. 0: converged. -1: convergence not obtained in default number of allowed iterations. -2: fewer than 2 complete observations. -3: error with confined estimator initial values (should not occur in R version). -4: invalid specification for limits with confined observation.

Author(s)

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References


See Also

censNID

Examples

set.seed(32173217)
n<-100
z<-rnorm(n)
U<-rep(Inf, n)
L<-rep(-Inf, n)
cy<-1
ind<-z>cy
m<-sum(as.integer(ind))
y<-c(z[ind], rep(cy, n-m))
L[(m+1):n] <- cy
cenNID(y, L, U)
censNID

mle NID sample with single censor point

Description

Uses AS 138

Usage

censNID(y, n, cy, ctyp = c("left", "right"))

Arguments

  y          complete observations
  n          sample size
  cy         censor point
  ctyp       either "left" or "right", default is "left"

Value

  a list with the following components:
    est        matrix with mean and sd and their se
    covMat     covariance matrix
    nobs       number of complete observations
    itercount  number of iterations
    ifault     fault indicator. 0-converged. -1: convergence not obtained in default number of allowed iterations. -2: fewer than 2 complete obserations. -3: error with confined estimator initial values (should not occur in R version). -4: invalid specification for limits with confined observation.

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References


See Also

cenNID
Examples

# Test data
z <- rep((-2):2, rep(3, 5))
cy <- -1.5
y <- z[z >= cy]
censNID(y, length(z), cy)

# Test left-censoring
set.seed(32173217)
n <- 100
z <- rnorm(n)
cy <- -1
ind <- z > cy
y <- z[ind]
censNID(y, n, cy)

# Test right-censoring
set.seed(32173217)
n <- 100
z <- rnorm(n)
cy <- 1
ind <- z < cy
y <- z[ind]
censNID(y, n, cy, ctyp="right")
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