R documentation

of `/media/928862C58862A785/Users/Michael’ etc.

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calc.delta Calcul.delta

Description

Calculates delta Fst or delta K from the output of summarise.Fst or summarise.lnPD.

Usage

    calc.delta(input, Fst = FALSE)

Arguments

    input a table containing Fst or lnPD data generated by summarise.Fst or summarise.lnPD.
    Fst    when FALSE, data is lnPD data and calculates delta K. When true, data is Fst
data and calculates delta Fst
corr.Qmatrix

Value

Returns a table listing K values and delta F or delta K statistics

Author(s)

Michael G. Campana <mcampana63@gmail.com>

See Also

summarise.Fst summarise.lnPD

corr.Qmatrix  Corr.Qmatrix

Description

Calculates Q matrix correlations from structure files in the folder specified in the filepath option

Usage

corr.Qmatrix(filepath = "./", instruct = FALSE, rowncol = TRUE, avmax = TRUE, pvalue = FALSE, raw = TRUE, r = 0.99, p = 0.05)

Arguments

filepath  a character string listing the folder’s path from the current directory
instruct  when TRUE, data is in INSTRUCT format, else data is in STRUCTURE format
rowncol  when TRUE, calculates and returns filtered Q matrix correlations using the rows-and-columns criterion
avmax  when TRUE, calculates and returns filtered Q matrix correlations using the average maximum correlation criterion
pvalue  when TRUE, calculates and returns Q matrix correlations using permutation tests
raw  when TRUE, returns the raw unfiltered Q matrix correlations
r  the minimum r value to classify a correlation as significant
p  the maximum p value to classify a correlation as significant. Ignored unless pvalue = TRUE

Value

Returns a S4 object of class QmatrixFilt listing Q matrix correlation results for all STRUCTURE results files in the designated folder

Author(s)

Michael G. Campana <mcampana63@gmail.com>
Description

The S4 class matrixCorr lists raw, unfiltered Q matrices between Structure runs.

Objects from the Class

Objects can be created by calls of the form `new("matrixCorr", ...)`. 

Slots

- **K** A numeric listing the K value of the runs correlated
- **Run1** A numeric identifying the first of the runs correlated
- **Run2** A numeric identifying the second of the runs correlated
- **CorrMatrix** A matrix listing raw Q matrix correlations
- **Pvalues** A matrix listing raw Q matrix correlation significances

Author(s)

Michael G. Campana <mcampana63@gmail.com>

See Also

- `matrixCorr`

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Description

Constructor for `matrixCorr` objects

Usage

```
matrixCorr(K, Run1, Run2, CorrMatrix, Pvalues = matrix(NA))
```
Arguments

K       A numeric corresponding to the @K slot listing the K value of the runs correlated
Run1   A numeric corresponding to the @Run1 slot identifying the first of the runs correlated
Run2   A numeric corresponding to the @Run2 slot identifying the second of the runs correlated
CorrMatrix A matrix corresponding to the @CorrMatrix slot listing raw Q matrix correlations
Pvalues A matrix corresponding to the @Pvalues slot listing raw Q matrix correlation significances

Value

Returns a S4 object of class matrixCorr listing raw Q matrix correlation results

Author(s)

Michael G. Campana <mcampana63@gmail.com>

See Also

matrixCorr

Examples

test <- matrixCorr(K = 1, Run1 = 2, Run2 = 3, CorrMatrix = matrix(NA))

QmatrixFilt

Description

The S4 class QmatrixFilt lists for Q matrix correlation output

Objects from the Class

Objects can be created by calls of the form new("QmatrixFilt", ...).

Slots

rownocol A list listing filtered Q matrix correlations by the rows-and-columns method
avmaxcorr  A table listing filtered Q matrix correlations by the rows-and-columns method
rawcorr   A list listing raw Q matrix correlations
Author(s)
    Michael G. Campana <mcampana63@gmail.com>

See Also
    QmatrixFilt

Description
    Constructor for QmatrixFilt objects

Usage
    QmatrixFilt(rowncol = list(""), avmaxcorr = as.table(matrix(NA)), rawcorr = list"

Arguments
    rowncol          A list corresponding to the @rowncol slot listing filtered Q matrix correlations
                    by the rows-and-columns method
    avmaxcorr        A table corresponding to the @avmaxcorr slot listing filtered Q matrix correla-
                    tions by the rows-and-columns method
    rawcorr          A list corresponding to the @rawcorr slot listing raw Q matrix correlations

Value
    Returns a S4 object of class QmatrixFilt listing Q matrix correlation results

Author(s)
    Michael G. Campana <mcampana63@gmail.com>

See Also
    QmatrixFilt

Examples
    test <- QmatrixFilt(rowncol = list(c("a", "b", "c")))
    test@rowncol
read.struct  Read.struct

Description
Reads the K values, Fsts, lnPDs from structure files in the folder specified in the filepath option

Usage
read.struct(filepath = "./", instruct = FALSE)

Arguments

filepath  a character string listing the folder’s path from the current directory
instruct  when TRUE, data is in INSTRUCT format, else data is in STRUCTURE format

Value
Returns a table listing K values, lnPDs and Fsts for all STRUCTURE results files in the designated folder

Author(s)
Michael G. Campana <mcampana63@gmail.com>

rowncolMatrix  RowncolMatrix

Description
The S4 class RowncolMatrix lists filtered Q matrix output by the row-and-column method

Objects from the Class
Objects can be created by calls of the form new("rowncolMatrix", ...).

Slots

K  A numeric listing the K value of the runs correlated
filterMatrix  A table listing filtered Q matrix correlations by the row-and-column method

Author(s)
Michael G. Campana <mcampana63@gmail.com>

See Also
rowncolMatrix
Description

Constructor for `rowncolMatrix` objects

Usage

`rowncolMatrix(K, filtermatrix)`

Arguments

- `K` A numeric corresponding to the `@K` slot listing the K value of the runs correlated
- `filtermatrix` A table corresponding to the `@filtermatrix` slot listing filtered Q matrix correlations

Value

Returns a S4 object of class `rowncolMatrix` listing raw Q matrix correlation results

Author(s)

Michael G. Campana <mcampana63@gmail.com>

See Also

`rowncolMatrix`

Examples

```r
test <- rowncolMatrix(K = 3, filtermatrix = table(matrix(c("Y","Y","Y",NA,"Y","Y",NA,NA,"Y"), ncol = 3, byrow = TRUE)))
```

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### summarise.Fst

**Summarise.Fst**

Description

Summarises Fst from structure output read by `read.struct`.

Usage

`summarise.Fst(input, stdevopt = 1)`
Arguments

input  a table containing lnPD Fst generated by read.struct
stddevopt  Chooses the optimisation procedure for the Fst summaries. 1: no optimisation, 2: order the clusters by value, 3: order the clusters by correlation coefficients

Value

Returns a table listing K values and summarised Fst statistics

Author(s)

Michael G. Campana <mcampana63@gmail.com>

See Also

read.struct link{calc.delta}

Description

Summarises lnP(D) from structure output read by read_struct.

Usage

summarise.lnPD(input)

Arguments

input  a table containing lnPD data generated by read.struct

Value

Returns a table listing K values and summarised lnPD statistics

Author(s)

Michael G. Campana <mcampana63@gmail.com>

See Also

read.struct link{calc.delta}