Package 'NonCompart'

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Title Noncompartmental Analysis of Pharmacokinetics

Description Conduct noncompartmental analysis as close as possible to the most widely used commercial pharmacokinetic analysis software, i.e. 'Phoenix(R) WinNonlin(R)' <https://www.certara.com/software/pkpd-modeling-and-simulation/phoenix-winnonlin/>. For more details on noncompartmental analysis, see the reference: Rowland M, Tozer TN. Clinical Pharmacokinetics and Pharmacodynamics - Concepts and Applications. 4e. 2011.

Depends R (>= 3.0.0)

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NeedsCompilation no

LazyLoad yes

Repository CRAN

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R topics documented:

NonCompart-package   *Noncompartmental Analysis for Pharmacokinetics*

Description

Conduct noncompartmental analysis(NCA) as close as possible to the most widely used commercial pharmacokinetic analysis software.

Details

The main functions are

NCA   to perform NCA for many subjects.

IndiNCA   to perform NCA for one subject.

Author(s)

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References

Rowland M, Tozer TN. Clinical Pharmacokinetics and Pharmacodynamics - Concepts and Applications. 4e. 2011.

Examples

```
# Theoph and Indometh data: dose in mg, conc in mg/L, time in h
NCA(Theoph, "Subject", "Time", "conc", Dose=320)
NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus")

iAUC = data.frame(Name=c("AUC[0-12h]","AUC[0-24h]"), Start=c(0,0), End=c(12,24)) ; iAUC
NCA(Theoph, "Subject", "Time", "conc", Dose=320, iAUC=iAUC)
NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus", iAUC=iAUC)

writeLines(NCA(Theoph, "Subject", "Time", "conc", Dose=320, Report="Text"),
           "Theoph_Linear_CoreOutput.txt")
writeLines(NCA(Theoph, "Subject", "Time", "conc", Dose=320, Method="Log", Report="Text"),
           "Theoph_Log_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus", Report="Text"),
           "Indometh_Bolus_Linear_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus", Method="Log",
           Report="Text"), "Indometh_Bolus_Log_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Infusion", TimeInfusion=0.25,
           Report="Text"), "Indometh_Infusion_Linear_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Infusion", TimeInfusion=0.25,
           Method="Log", Report="Text"), "Indometh_Infusion_Log_CoreOutput.txt")

IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320)
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Bolus")
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Infusion", TimeInfusion=0.25)
```

```
IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320,
        Report="Text")
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Bolus", Report="Text")
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Infusion", TimeInfusion=0.25, Report="Text")

iAUC = data.frame(Name=c("AUC[0-12h]","AUC[0-24h]"), Start=c(0,0), End=c(12,24)) ; iAUC
IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320,
        iAUC=iAUC)
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Bolus", iAUC=iAUC)
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Infusion", TimeInfusion=0.25, iAUC=iAUC)
```

AUC	*Calculate Area Under the Curve and Area Under the first Moment Curve in a table format*

Description

Calculate Area Under the Curve(AUC) and the first Moment Curve(AUMC) in two ways; 'linear trapezoidal method' or 'linear-up and log-down' method. Return a table of cumulative values.

Usage

```
AUC(x, y, Method = "Linear")
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration
Method	one of "Linear" or "Log" to indicate the way to calculate AUC and AUMC

Details

Method="Linear" means linear trapezoidal rule with linear interpolation. Method="Log" means linear-up and log-down method.

Value

Table with two colums, AUC and AUMC; the first column values are cumulative AUCs and the second column values cumulative AUMCs.

Author(s)

Kyun-Seop Bae <k@acr.kr>

References

Rowland M, Tozer TN. Clinical Pharmacokinetics and Pharmacodynamics - Concepts and Applications. 4e. pp687-689. 2011.

See Also

[LinAUC](),[LogAUC]()

Examples

```
AUC(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"]) # Default is "Linear"
AUC(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"], Method="Log")
```

BestSlope	*Choose best fit slope for the log(y) and x regression by the criteria of adjusted R-square*

Description

It sequentially fits (log(y) ~ x) from the last point of x to the previous points with at least 3 points. It chooses the highest adjusted R-square. If the difference is less then 1e-4, it chooses longer slope.

Usage

```
BestSlope(x, y, AdmMode = "Extravascular")
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration
AdmMode	one of "Bolus" or "Infusion" or "Extravascular" to indicate drug administration mode

Details

Choosing the best terminal slope (y in log scale) in pharmacokinetic analysis is somewhat challenging, and it could varies by analyist. This function uses the same method which the most popular software uses. Currently this function uses ordinary least square method(OLS) only.

Value

Rsq	R-squared
adjRsq	adjusted R-squared
n	number of points used for slope
Lambda_z	negative of slope, lambda_z
b0	intercept of regression line
Corr_XY	correlation of log(y) and x
Lambda_z_lower	earlist x for lambda_z
Lambda_z_upper	last x for lambda_z
Clast_pred	predicted y value at last point, concentration of last_predicted

Author(s)

Kyun-Seop Bae <k@acr.kr>

See Also

[Slope](#)

Examples

```
BestSlope(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"])
BestSlope(Indometh[Indometh$Subject==1, "time"],Indometh[Indometh$Subject==1, "conc"],
          AdmMode="Bolus")
```

IndiNCA   *Noncompartmental Analysis for an Individual*

Description

Conduct noncompartmental analysis with one subject data

Usage

```
IndiNCA(x, y, Dose = 0, Method = "Linear", AdmMode = "Extravascular", TimeInfusion = 0,
               RetNames, Report = "Table", iAUC)
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration
Dose	administered dose for a subject
Method	one of "Linear" or "Log" to indicate the way to calculate AUC and AUMC
AdmMode	one of "Bolus" or "Infusion" or "Extravascular" to indicate drug administration mode
TimeInfusion	infusion duration for constant infusion, otherwise 0
RetNames	character vector for the pharmacokinetic parameter names to be returned
Report	one of "Table" or "Text" to specify the type of return value
iAUC	data.frame with three columns, "Name", "Start", "End" to specify partial interval AUC

Details

This performs noncompartmental analysis for a subject. It returns practically the same result with the most popular commercial software.

Value

CMAX	maximum concentration, Cmax
CMAXD	CMAX / Dose, Cmax / Dose
TMAX	time of maximum concentration, Tmax
TLAG	time until first nonzero concentration, for extravascular administration only
CLST	last positive concentration observed, Clast
CLSTP	last positive concentration predicted, Clast_pred

TLST	time of last positive concentration, Tlast
LAMZHL	half-life by lambda z, ln(2)/LAMZ
LAMZ	lambda_z negative of best fit terminal slope
LAMZLL	earlist time for LAMZ
LAMZUL	last time for LAMZ
LAMZNPT	number of points for LAMZ
CORRXY	correlaton of log(concentration) and time
R2	R-squared
R2ADJ	R-squared adjusted
C0	back extrapolated concentration at time 0, for bolus intravascular administration only
AUCLST	AUC from 0 to TLST
AUCALL	AUC using all the given points, including trailing zero concentrations
AUCIFO	AUC infinity observed
AUCIFOD	AUCIFO / Dose
AUCIFP	AUC infinity predicted using CLSTP instead of CLST
AUCIFPD	AUCIFP / Dose
AUCPEO	AUC % extrapolation observed
AUCPEP	AUC % extrapolated for AUCIFP
AUCPBEO	AUC % back extrapolation observed, for bolus IV administration only
AUCPBEP	AUC % back extrapolation predicted with AUCIFP, for bolus IV administration only
AUMCLST	AUMC to the TLST
AUMCIFO	AUMC infinity observed using CLST
AUMCIFP	AUMC infinity determiend by CLSTP
AUMCPEO	AUMC % extrapolated observed
AUMCPEP	AUMC % extrapolated predicted
MRTIVLST	mean residence time(MRT) to TLST, for intravascular administration
MRTIVIFO	mean residence time(MRT) infinity using CLST, for intravascular administration
MRTIVIFP	mean residence time(MRT) infinity ucinsg CLSTP, for intravascular administration
MRTEVLST	mean residence time(MRT) to TLST, for extravascular administration
MRTEVIFO	mean residence time(MRT) infinity using CLST, for extravascular administration
MRTEVIFP	mean residence time(MRT) infinity ucinsg CLSTP, for extravascular administration
VZO	volume of distribution determined by LAMZ and AUCIFO, for intravascular administration
VZP	volume of distribution determined by LAMZ and AUCIFP, for intravascular administration
VZFO	VZO for extravascular administration, VZO/F, F is bioavailability
VZFP	VZP for extravascular administration, VZP/F, F is bioavailability

CLO	clearance using AUCIFO, for intravascular administration
CLP	clearance using AUCIFP, for intravascular administration
CLFO	CLO for extravascular administration, CLO/F, F is bioavailability
CLFP	CLP for extravascular administration, CLP/F, F is bioavailability
VSSO	volume of distribution at steady state using CLST, for intravascular administration only
VSSP	volume of distribution at stead state using CLSTP, for intravascular administration only

Author(s)

Kyun-Seop Bae <k@acr.kr>

References

Rowland M, Tozer TN. Clinical Pharmacokinetics and Pharmacodynamics - Concepts and Applications. 4e. 2011.

See Also

AUC, BestSlope

Examples

```
IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320)
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Bolus")
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Infusion", TimeInfusion=0.25)

IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320,
        Report="Text")
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Bolus", Report="Text")
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Infusion", TimeInfusion=0.25, Report="Text")

iAUC = data.frame(Name=c("AUC[0-12h]","AUC[0-24h]"), Start=c(0,0), End=c(12,24)) ; iAUC
IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320,
        iAUC=iAUC)
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Bolus", iAUC=iAUC)
IndiNCA(Indometh[Indometh$Subject==1,"time"], Indometh[Indometh$Subject==1, "conc"], Dose=25,
        AdmMode="Infusion", TimeInfusion=0.25, iAUC=iAUC)
```

IntAUC   *Calculate interval AUC*

Description

calculate interval AUC

Usage

```
IntAUC(x, y, t1, t2, Res, Method = "Linear")
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration
t1	start time for AUC
t2	end time for AUC
Res	result from IndiNCA function
Method	one of "Linear" or "Log" to indicate the way to calculate AUC

Details

This calculate interval (partial) AUC (from t1 to t2) with the given series of x and y. If t1 and/or t2 cannot be found within x vector, it interpolates according to the Method.

Value

return interval AUC value (scalar)

Author(s)

Kyun-Seop Bae <k@acr.kr>

See Also

AUC, Interpol

Examples

```
Res = IndiNCA(Theoph[Theoph$Subject==1,"Time"], Theoph[Theoph$Subject==1, "conc"], Dose=320)
IntAUC(Theoph[Theoph$Subject==1, "Time"], Theoph[Theoph$Subject==1, "conc"], t1=0.5, t2=11, Res)
```

Interpol	*Interpolate y value*

Description

interpolate y value when xnew does not exist within x vector

Usage

```
Interpol(x, y, xnew, Slope, b0, Method = "Linear")
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration
xnew	new x point to be interpolated
Slope	slope of regression log(y) ~ x
b0	y value of just left point of xnew
Method	one of "Linear" or "Log" to indicate the way to interpolate

Details

This function interpolate y value, if xnew is not in x vector. If xnew is in x vector, it just returns the given x and y vector. This function usually is called by IntAUC function Returned vector is sorted in the order of increasing x values.

Value

new x and y vector containing xnew and ynew point

Author(s)

Kyun-Seop Bae <k@acr.kr>

See Also

[IntAUC](#)

Examples

```
x = 10:1 + 0.1
y = -2*x + 40.2
Interpol(x, y, 1.5)
Interpol(x, y, 1.5, Method="Log")
```

LinAUC   *Area Under the Curve(AUC) and Area Under the first Moment*
                                Curve(AUMC) by linear trapezoidal method

---

Description

calculate AUC and AUMC using linear trapezoidal method

Usage

```
LinAUC(x, y)
```

Arguments

x   vector values of x-axis, usually time

y   vector values of y-axis, usually concentration

Details

This function returns AUC and AUMC by linear trapezoidal method.

Value

AUC   area under the curve

AUMC   area under the first moment curve

Author(s)

Kyun-Seop Bae <k@acr.kr>

References

Gibaldi M, Perrier D. Pharmacokinetics 2e revised and expanded. pp 409-416. 1982

See Also

LogAUC,AUC

Examples

```
LinAUC(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"])
AUC(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"]) # compare the last line
```

LogAUC	*Area Under the Curve(AUC) and Area Under the first Moment Curve(AUMC) by linear-up log-down method*

Description

calculate AUC and AUMC using linear-up log-down method

Usage

```
LogAUC(x, y)
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration

Details

This function returns AUC and AUMC by linear-up log-down method.

Value

AUC	area under the curve
AUMC	area under the first moment curve

Author(s)

Kyun-Seop Bae <k@acr.kr>

References

Gibaldi M, Perrier D. Pharmacokinetics 2e revised and expanded. pp 409-416. 1982

See Also

[LinAUC](),[AUC]()

Examples

```
LogAUC(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"])
# Compare the last line with the above
AUC(Theoph[Theoph$Subject==1, "Time"],Theoph[Theoph$Subject==1, "conc"], Method="Log")
```

NCA   *Noncompartmental analysis for more than one subject*

Description

conduct noncompartmental analysis for many subjects in a data table

Usage

```
NCA(Data, colSubj, colTime, colConc, colTrt, Method = "Linear", Dose = 0,
          AdmMode = "Extravascular", TimeInfusion = 0, Report = "Table", iAUC)
```

Arguments

Data	name of data table containing time-concentration data of many subjects
colSubj	column name for subject ID
colTime	column name for the time
colConc	column name for the concentration
colTrt	column name for the treatment code. This is useful for crossover study like bioequivalence trial.
Method	one of "Linear" or "Log" to indicate the way to calculate AUC
Dose	administered dose. One should be careful for the unit.
AdmMode	one of "Bolus" or "Infusion" or "Extravascular" to indicate drug administration mode
TimeInfusion	infusion duration for constant infusion, otherwise 0
Report	one of "Table" or "Text" to specify the type of return value
iAUC	data.frame with three columns, "Name", "Start", "End" to specify partial interval AUC

Details

This function calls IndiNCA repeatedly to do NCA for each subject. If you specify Report="Text", this function returns in free text format to be used in a report file.

Value

CMAX	maximum concentration, Cmax
CMAXD	CMAX / Dose, Cmax / Dose
TMAX	time of maximum concentration, Tmax
TLAG	time until first nonzero concentration, for extravascular administration only
CLST	last positive concentration observed, Clast
CLSTP	last positive concentration predicted, Clast_pred
TLST	time of last positive concentration, Tlast
LAMZHL	half-life by lambda z, ln(2)/LAMZ
LAMZ	lambda_z negative of best fit terminal slope

LAMZLL	earlist time for LAMZ
LAMZUL	last time for LAMZ
LAMZNPT	number of points for LAMZ
CORRXY	correlaton of log(concentration) and time
R2	R-squared
R2ADJ	R-squared adjusted
C0	back extrapolated concentration at time 0, for bolus intravascular administration only
AUCLST	AUC from 0 to TLST
AUCALL	AUC using all the given points, including trailing zero concentrations
AUCIFO	AUC infinity observed
AUCIFOD	AUCIFO / Dose
AUCIFP	AUC infinity predicted using CLSTP instead of CLST
AUCIFPD	AUCIFP / Dose
AUCPEO	AUC % extrapolation observed
AUCPEP	AUC % extrapolated for AUCIFP
AUCPBEO	AUC % back extrapolation observed, for bolus IV administration only
AUCPBEP	AUC % back extrapolation predicted with AUCIFP, for bolus IV administration only
AUMCLST	AUMC to the TLST
AUMCIFO	AUMC infinity observed using CLST
AUMCIFP	AUMC infinity determiend by CLSTP
AUMCPEO	AUMC % extrapolated observed
AUMCPEP	AUMC % extrapolated predicted
MRTIVLST	mean residence time(MRT) to TLST, for intravascular administration
MRTIVIFO	mean residence time(MRT) infinity using CLST, for intravascular administration
MRTIVIFP	mean residence time(MRT) infinity ucinsg CLSTP, for intravascular administration
MRTEVLST	mean residence time(MRT) to TLST, for extravascular administration
MRTEVIFO	mean residence time(MRT) infinity using CLST, for extravascular administration
MRTEVIFP	mean residence time(MRT) infinity ucinsg CLSTP, for extravascular administration
VZO	volume of distribution determined by LAMZ and AUCIFO, for intravascular administration
VZP	volume of distribution determined by LAMZ and AUCIFP, for intravascular administration
VZFO	VZO for extravascular administration, VZO/F, F is bioavailability
VZFP	VZP for extravascular administration, VZP/F, F is bioavailability
CLO	clearance using AUCIFO, for intravascular administration
CLP	clearance using AUCIFP, for intravascular administration
CLFO	CLO for extravascular administration, CLO/F, F is bioavailability

CLFP	CLP for extravascular administration, CLP/F, F is bioavailability
VSSO	volume of distribution at steady state using CLST, for intravascular administration only
VSSP	volume of distribution at stead state using CLSTP, for intravascular administration only

Author(s)

Kyun-Seop Bae <k@acr.kr>

References

Rowland M, Tozer TN. Clinical Pharmacokinetics and Pharmacodynamics - Concepts and Applications. 4e. 2011.

See Also

IndiNCA

Examples

```
# Theoph and Indometh data: dose in mg, conc in mg/L, time in h
NCA(Theoph, "Subject", "Time", "conc", Dose=320)
NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus")

iAUC = data.frame(Name=c("AUC[0-12h]","AUC[0-24h]"), Start=c(0,0), End=c(12,24)) ; iAUC
NCA(Theoph, "Subject", "Time", "conc", Dose=320, iAUC=iAUC)
NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus", iAUC=iAUC)

writeLines(NCA(Theoph, "Subject", "Time", "conc", Dose=320, Report="Text"),
           "Theoph_Linear_CoreOutput.txt")
writeLines(NCA(Theoph, "Subject", "Time", "conc", Dose=320, Method="Log", Report="Text"),
           "Theoph_Log_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus", Report="Text"),
           "Indometh_Bolus_Linear_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Bolus", Method="Log",
           Report="Text"), "Indometh_Bolus_Log_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Infusion", TimeInfusion=0.25,
           Report="Text"), "Indometh_Infusion_Linear_CoreOutput.txt")
writeLines(NCA(Indometh, "Subject", "time", "conc", Dose=25, AdmMode="Infusion", TimeInfusion=0.25,
           Method="Log", Report="Text"), "Indometh_Infusion_Log_CoreOutput.txt")
```

Round   *Round Half Away from Zero*

Description

ordinary rounding function, so called round half away from zero

Usage

```
Round(x, n = 0)
```

Arguments

x numeric to be rounded

n indicating decimal digits

Details

round in R base rounds to the even number, i.e. round(0.5) is 0 not 1. If you want rounding 0.5 be 1, you can use this Round function. This function is for the consistency with other software like MS-Excel, SAS.

Value

ordinarily rounded value

Author(s)

Kyun-Seop Bae <k@acr.kr>

References

See wikipedia subject "Rounding"

Examples

```
(x = 1:10 - 0.5)
Round(x)
round(x) # compare with the above
```

RptCfg *NCA Report Configuation Table*

Description

Contains the names and order of colum of return table/text by IndiNCA and NCA functions

Usage

```
RptCfg
```

Format

A data frame with 48 observations on the following 10 variables.

PPTESTCD a character vector of CDISC SDTM PPTESTCD

SYNONYM a character vector of CDISC SDTM PPTESTCD Synonym

NCI a character vector of NCI peferred terms

WNL a character vector of WinNonlin(R) software variables

ExtravascularDefault a numeric vector of ordering in report for extravascular administration, Zero means exclusion in the report.

ExtravascularWNL a numeric vector of WinNonlin(R) style ordering in report for extravascular administration, Zero means exclusion in the report.

BolusDefault a numeric vector of ordering in report for extravascular administration, Zero means exclusion in the report.

BolusWNL a numeric vector of WinNonlin(R) style ordering in report for extravascular administration, Zero means exclusion in the report.

InfusionDefault a numeric vector of ordering in report for extravascular administration, Zero means exclusion in the report.

InfusionWNL a numeric vector of WinNonlin(R) style ordering in report for extravascular administration, Zero means exclusion in the report.

Details

This table should exist in NonCompart package. User can edit this table for shaping the report in one's own style.

Slope   *Get the Slope of regression log(y) ~ x*

Description

calculate slope with linear regression of log(y) ~ x

Usage

```
Slope(x, y)
```

Arguments

x	vector values of x-axis, usually time
y	vector values of y-axis, usually concentration

Details

With time-concentration curve, you frequently need to estimate slope in log(concentration) ~ time. This function is usually called by BestSlope function and you seldom need to call this function directly.

Value

R2	R-squared
R2ADJ	adjusted R-squared
LAMZNPT	number of points used for slope
LAMZ	negative of slope, lambda_z
b0	intercept of regression line
CORRXY	correlation of log(y) and x
LAMZLL	earlist x for lambda_z
LAMZUL	last x for lambda_z
CLSTP	predicted y value at last point, concentration of last_predicted

Author(s)

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See Also

[BestSlope](#)

Examples

```
Slope(Indometh[Indometh$Subject==1, "time"],Indometh[Indometh$Subject==1, "conc"])
```

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