Package 'wnaetw'

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Type Package

Title What Nicolas's Teacher Wants

Version 1.0

Date 2012-08-31

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Description This package does what Nicolas's teacher wants with numerical variables. It seems pretty clear with just the title

License WTFPL (>=2.0)

Depends e1071, ineq, graphics, stats, RGtk2

SystemRequirements Cairo (>= 1.0.0), ATK (>= 1.10.0), Pango (>= 1.10.0), GTK+ (>= 2.8.0), GLib (>= 2.8.0)

R topics documented:

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wnaetw-package   *What Nicolas A. Edward's Teacher Wants*

Description

This package does what Nicolas's teacher wants with numerical variables.

Details

Package:	wnaetw
Type:	Package
Version:	1.0
Date:	2012-08-31
License:	WTFPL http://sam.zoy.org/wtfpl

This package is made with two main functions

WhatMyTeacherWants that calculates simple statistics on a numerical variable

calculateGUI that is a graphical user interface which allows the user to perform the previous function on all numerical variables found in a chosen CSV file

Author(s)

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- Jonathan Mahe
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Maintainer: Nathalie Villa-Vialaneix <nathalie@nathalievilla.org>

References

Web page (RGtk2): http://tuxette.nathalievilla.org/?p=866&lang=en Web site (Descriptive statistics): http://www.nathalievilla.org/spip.php?article48:

See Also

calculateGUI WhatMyTeacherWants kurtosis skewness ineq

Examples

```
## Not run
# calculateGUI()
```

| calculateGUI | *GUI for the function* WhatMyTeacherWants. |

Description

A Graphical User Interface for the function WhatMyTeacherWants. This interface calculates standard statistics for the numerical variables found in a CSV file.

Usage

```
calculateGUI()
```

Value

This interface returns no value but print the results in a window and can eventually save them in a CSV file. The CSV file is saved in the directory that contained the input file.

Note

The file students.csv included in the folder csv-data/ can be used to test the function. It contains the data data(students). Some columns in this file contain numeric values that do not correspond to numeric variables (e.g., zip is a ZIP code and thus calculating the average ZIP code is plain stupid) thus calculateGUI applied on this file would give several irrelevant output.

Author(s)

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See Also

WhatMyTeacherWants

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students *Students survey*

Description

This data come from a survey made each year by NV2 <nathalie@nathalievilla.org> at the "IUT de Perpignan, Dpt STID, Carcassonne (France)". They are collected on first year students and contain general information such as age and height. They are used as an illustrative example for the first semester class on descriptive statistics.

Usage

```
data(students)
```

Format

A data frame with 35 observations on the following 21 variables.

year a numeric vector indicating which year the observation has been collected

age the student's age (numeric)

bornInFr a factor with levels Oui/Non indicating if the student is (Oui) or is not born in France

zip the student's ZIP code

gender the student's gender: a factor with levels Feminin (female) and Masculin (male)

siblings the number of the student (numeric)

height the student's height (cm)

feetSize the student's feet size (French type size)

eyesColor the student's eye color; a factor with levels `Bleu` (blue), `Marron` (brown) and `Vert` (green)

mothersEyesColor the student's mother's eye color; a factor with levels `Bleu` (blue), `Marron` (brown) and `Vert` (green)

carColor the color of the car in which the student has last been (character vector, open answer)

dptCode the code of the French "departement" in which the student has last been

placeToVisit the place that that the student would like to visit (character vector, open answer)

InterestedInFootbal how much the student is interested in soccer; a factor with levels `Beaucoup` (a lot), `Un peu` (a little) and `Pas du tout` (not at all)

interestedInRugby how much the student is interested in rubgy; a factor with levels `Beaucoup` (a lot), `Un peu` (a little) and `Pas du tout` (not at all)

bacType the student's major for his "baccalaureat" (French A-level); a factor with levels `ES` (economics), `STI` (engineering) or `S` (sciences)

bacHonors the student's baccalaureat honors; a factor with levels `B` (high honors), `AB` (honors) and `P` (no honors)

fatherJob the student's father's job; a factor with levels `Agriculteur exploitant` (farmer), `Artisan, commercant, profession liberale` (shopkeeper), `Cadre, profession intellectuelle superieure` (executive), `Employe` (domestic employee), `Ouvrier` (worker), `Profession intermediaire` (office employee), `Retraite` (retired) and `Autres` (other)

averageMathGrade average Grade in mathematics during the previous year (numeric; French grade is a number between 0 and 20 where 20 is the best)

bacMathGrade Grade in mathematics at the A-level exam (numeric; French grade is a number between 0 and 20 where 20 is the best)

averageSportGrade average Grade in sport during the previous year (numeric; French grade is a number between 0 and 20 where 20 is the best)

Details

Some of the variables make no sense outside France. Translation is given as an explanation attempt and is thus very approximative.

References

Web page (author's class on descriptive statistics): https://www.nathalievilla.org/spip.php?article48

Examples

```
data(students)
summary(students)
```

WhatMyTeacherWants   *What My Teacher Wants*

Description

This function calculates standard statistics for a numerical variable.

Usage

```
WhatMyTeacherWants(x)
```

Arguments

x   a numeric vector.

Details

- here, kurtosis coefficient is equal to $\frac{\mu_4}{\sigma^4} - 3$
  where μ_4
  is the 4th central moment and σ
  is the standard deviation.
- here, skewness coefficient is equal to $\frac{\mu_3}{\sigma^3}$
  where μ_3
  is the 3rd central moment and σ
  is the standard deviation.

Value

mean	arithmetic mean (if missing values exist in x, they are omitted)
median	median (if missing values exist in x, they are omitted)
min	minimum of all the values present in x (if missing values exist in x, they are omitted)
max	maximum of all the values present in x (if missing values exist in x, they are omitted)
range	difference between max and min
sd	standard deviation (if missing values exist in x, they are omitted)
kurtosis	kurtosis coefficient (if missing values exist in x, they are omitted)
skewness	skewness coefficient (if missing values exist in x, they are omitted)
variation	coefficient of variation (if missing values exist in x, they are omitted)
Q1	first quartile (if missing values exist in x, they are omitted)
Q3	third quartile (if missing values exist in x, they are omitted)
gini	Gini coefficient (if missing values exist in x, they are omitted)

Note

Note that the function gives results as long as the input vector is numeric. Depending on the meaning of the values in the input vector, the outputs might be plain stupid. It is the user's responsability to interpret the results of this function properly...

Author(s)

Nathalie Villa-Vialaneix <nathalie@nathalievilla.org>

References

Web page: http://www.nathalievilla.org/spip.php?article48

See Also

calculateGUI

Examples

```
data(students)
## Example on a real numeric variable
## Gini index is not relevant in this example
WhatMyTeacherWants(students$averageMathGrade)
## An example of what's plain stupid to do
WhatMyTeacherWants(as.numeric(students$zip))
```

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