Package 'ntsDatasets'

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Type Package

Title Neutrosophic Data Sets

Version 0.1.0

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Description
Provides a collection of datasets related to neutrosophic sets for statistical modeling and analysis.

License GPL-3

URL <https://github.com/a-roshani/ntsDatasets>

Encoding UTF-8

LazyData false

Depends R (>= 3.5)

RoxygenNote 7.3.2

NeedsCompilation no

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Repository CRAN

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Contents

AGSTimes   *The Analgesic Datasets*

Description

Dataset containing times to relief for 20 patients receiving analgesic.

Format

A data frame with the relief times (in minutes) of 20 patients receiving analgesic.

Source

Jamal, F., Shafiq, S., Aslam, M., Khan, S., Hussain, Z., Abbas, Q. (2024). Modeling COVID-19 data with a novel neutrosophic Burr-III distribution, *Scientific Reports*, 14:10810.

Examples

```
data("AGSTimes")
AGSTimes
```

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alloy   *Alloy melting data*

Description

It is related to alloy melting points.

Format

A data.frame with 18 observations of alloy melting points.

Source

Rao, G. S. (2003). Neutrosophic Log-Logistic Distribution Model in Complex Alloy Metal Melting Point Applications, *International Journal of Computational Intelligence Systems*, 16: 48.

Hassan, M. K. and Aslam, M. (2024). Birnbaum Saunders distribution for imprecise data: statistical properties, estimation methods, and real life applications, *scientific reports*, 14: 6955.

Examples

```
data("alloy")
alloy
```

`balls`	*Balls data*

Description

It is related to failure times of 23 bearing balls.

Format

A data.frame with 23 observations of failure times of bearing balls.

Source

Lawless, J. F. (2003). Statistical Models and Methods for Lifetime Data, Wiley, Hoboken, NJ, USA.

Salam, S., Khan, Z., Ayed, H., Brahmia, A., Amin, A. (2021). The Neutrosophic Lognormal Model in Lifetime Data Analysis: Properties and Applications, *Fuzzy Sets and Their Applications in Mathematics*, Article ID 6337759.

Examples

```
data("balls")
balls
```

`batteries`	*Lifetime of batteries data*

Description

It is related to the lifetime in 100hours of batteries

Format

A data.frame with 23 batteries represent their lifetime.

Source

Aslam, M. (2021). A new goodness of fit test in the presence of uncertain parameters. *Complex and Intelligent Systems*, 7(1), 359–365.

Hassan, M. K. and Aslam, M. (2024). Birnbaum Saunders distribution for imprecise data: statistical properties, estimation methods, and real life applications, *scientific reports*, 14: 6955.

Examples

```
data("batteries")
batteries
```

CRPK   *Coronavirus Reproduction Rate Data for Pakistan*

Description

Dataset containing the coronavirus reproduction rate in Pakistan from October 2020 to December 2020.

Format

A data frame with 79 observations of coronavirus reproduction rate in Pakistan from October 2020 to December 2020.

Source

Sherwani, R. A. K., Shakeel, H., Saleem, M., Awan, W. B., Aslam, M., Farooq, M. (2021). A new neutrosophic sign test: An application to COVID-19 data, PLOS ONE, 16(8): e0255671.

Examples

```
data("CRPK")
head(CRPK)
```

---

debt   *Public Debt Data*

Description

This dataset contains information on public debt (in million dollars) in Egypt, covering the period from 2000 to 2022.

Format

A data frame with 23 observations of public debt in Egypt from 2000 to 2022.

Source

Essa, N. I., Zhar, H. M., Abu El-Magd, N. A. T. (2023). Neutrosophic Generalized Pareto Distribution, *Mathematics and Statistics*, 11(5), 827-833.

Examples

```
data("debt")
debt
```

ICUcovidPK	*The Daily ICU Occupancy dataset*

Description

Dataset containing daily ICU occupancy data of COVID-19 patients in Pakistan for December 2020.

Format

A data frame with observations of daily ICU occupancy: - day: Day of December 2020. - age_55_and_above: Lower and upper bounds of ICU occupancy for patients aged 55 and above, formatted as "lower-upper". - age_between_35_and_55: Lower and upper bounds of ICU occupancy for patients aged between 35 and 55, formatted as "lower-upper". - age_below_35: Lower and upper bounds of ICU occupancy for patients aged below 35, formatted as "lower-upper". - male: Lower and upper bounds of ICU occupancy for male patients, formatted as "lower-upper". - female: Lower and upper bounds of ICU occupancy for female patients, formatted as "lower-upper".

Source

Sherwani, R. A. K., Shakeel, H., Awan, W. B., Faheem, M., Aslam, M. (2021). Analysis of COVID-19 data using neutrosophic Kruskal Wallis H test, *BMC Medical Research Methodology*, 21:215.

Sherwani R. A. K., Shakeel, H., Saleem, M., Awan, W. B., Aslam, M., Farooq, M. (2021). A new neutrosophic sign test: An application to COVID-19 data, *PLoS ONE*, 16(8): e0255671.

Examples

```
data("ICUcovidPK")
ICUcovidPK
```

MRcovidNL	*COVID-19 Mortality Rate Data for the Netherlands*

Description

Dataset containing COVID-19 mortality rate data recorded in the Netherlands recorded from 31 March to 30 April 2020.

Format

A data frame with 30 observations of COVID-19 mortality rate for the Netherlands.

Source

Almongy, H. M., Almetwally, E. M., Aljohani, H. M., Alghamdi, A. S. and Hafez, E. H. (2021). A new extended Rayleigh distribution with applications of COVID-19 data. *Results in Physics*, 23, 104012.

Jamal, F., Shafiq, S., Aslam, M., Khan, S., Hussain, Z., Abbas, Q. (2024). Modeling COVID-19 data with a novel neutrosophic Burr-III distribution, *Scientific Reports*, 14:10810.

Examples

```
data("MRcovidNL")
head(MRcovidNL)
```

NOx   *Nitrogen Oxides Emissions Data*

Description

This dataset includes yearly nitrogen oxides emissions for Denmark for the period 1990 to 2018.

Format

A data frame with 29 observations of nitrogen oxides emissions for Denmark for the period 1990-2018.

Source

Khan, Z., Amin, A., Khan, S. A., Gulistan, M. (2021). Statistical Development of the Neutrosophic Lognormal Model with Application to Environmental Data, *Neutrosophic Sets and Systems*, 47, 1-11.

Examples

```
data("NOx")
NOx
```

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remission   *Remission data*

Description

It is related to remission time in months of 128 cancer patients.

Format

A data.frame with 128 observations of remission time in months of cancer patients.

Source

Lee, E.T. and Wang, J. (2003), Statistical Methods for Survival Data Analysis. Vol. 476, John Wiley & Sons,Hoboken, NJ, USA.

Rao, G. S., Norouzirad, M., and Mazarei . D. (2023). Neutrosophic Generalized Exponential Distribution with Application. *Neutrosophic Sets and Systems*, 55, 471-485.

Examples

```
data("remission")
remission
```

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