Package ‘fixr’

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check_data_consistency

Check Data Consistency Between Two Data Frames

Description

This function compares the column names and number of rows in two data frames and returns a message indicating whether the data is consistent or not.

Usage

check_data_consistency(df1, df2)

Arguments

df1
First data frame to compare

df2
Second data frame to compare

Value

A message indicating whether the data is consistent or not.
**check_data_distribution**

*Check the data distribution of a data frame*

**Description**

This function checks if the data is normally distributed for each numeric column in a data frame.

**Usage**

```r
check_data_distribution(df)
```

**Arguments**

- `df` A data frame

**Value**

This function does not return anything, it only prints messages to the console.

**Examples**

```r
df <- data.frame(x = c("a", "b", "c"), y = c(4, 5, 6), z = c(7, 8, 9))
check_data_distribution(df)
```

---

**check_data_quality**

*Check Data Quality*

**Description**

This function performs a series of data quality checks on a given dataframe, including checking the data structure, missing values, data accuracy, negative values, outliers, sample size, duplicate rows, and duplicate columns.
Usage

check_data_quality(df)

Arguments

df

A dataframe.

Value

A message indicating the results of each data quality check.

Examples

df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "a"),
    y = c(4, NA, -6, 4), z = c(7, 8, 180, 7))

# Check the data quality of the example dataframe
check_data_quality(df)

check_data_reliability

Check inter-rater or test-retest reliability between numeric columns

Description

This function checks for inter-rater or test-retest reliability between all pairs of numeric columns in a data frame by computing the correlation between each pair and reporting if it is less than 0.8.

Usage

check_data_reliability(df)

Arguments

df

A data frame

Value

A message indicating whether the data is reliable or not between each pair of columns.

Examples

df <- data.frame(x = c("a", "b", "c"), y = c(4, 5, 6), z = c(7, 8, 180))
check_data_reliability(df)
Description

This function checks the structure of the given data frame and prints the number of rows, number of columns, column names, column data types, and number of missing values.

Usage

check_data_structure(df)

Arguments

df The data frame to be checked.

Value

None

Examples

df <- data.frame(id = 1:10,
                 gender = c("male", "female", "male", "male", "male", "male", "female", "female"),
                 age = c(25, 32, 45, 19, 27, 56, 38, 42, 33, NA),
                 salary = c(50000, 60000, 75000, 45000, 55000, 90000, NA, 80000, 65000, 70000))

# Check the data structure of the example dataframe
check_data_structure(df)

Description

Check if a data frame contains negative values.

Usage

check_for_negative_values(df)

Arguments

df The data frame to check for negative values.
check_missing_values

Value

If negative values are found, the function returns their indices as an array index object. If no negative values are found, NULL is returned.

Examples

df <- data.frame(a = c(1, 2, 3), b = c(-1, 0, 1))
check_for_negative_values(df)
# [1] "Data frame contains negative values."
# row col
# [1,]  2  1"

check_missing_values  Check for Missing Values in Data Frame

Description

This function checks for missing values in a data frame and prints out the names of the columns with missing values and their counts.

Usage

check_missing_values(df)

Arguments

df          A data frame to check for missing values.

Value

A message indicating if missing values were found or not.

Examples

df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "a"),
y = c(4, 5, -6, 4), z = c(7, 8, NA, 7))
check_missing_values(df)
**check_outliers**  
*Check for Outliers or Extreme Values in Data*

**Description**
This function checks for outliers or extreme values in a given dataframe.

**Usage**
```r
check_outliers(df)
```

**Arguments**
- `df` A dataframe.

**Value**
A message indicating whether or not extreme values were found.

**Examples**
```r
df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "a"),
                 y = c(4, 5, -6, 4), z = c(7, 8, NA, 7))

check_outliers(df)
```

---

**check_sample_size**  
*Check if sample size is adequate*

**Description**
This function checks if the sample size of a data frame is adequate for statistical analysis.

**Usage**
```r
check_sample_size(df)
```

**Arguments**
- `df` A data frame to be checked

**Value**
A message indicating if the sample size is adequate or too small
find.packages_path

Examples

df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "a"),
                 y = c(4, 5, -6, 4), z = c(7, 8, 18, 7))
check_sample_size(df)

find.packages  Find R packages that can import a file format

Description

This function searches the CRAN repository for R packages that can be used to import a file format.

Usage

find.packages(file_extension)

Arguments

file_extension  The file extension for the file format to search for packages to import

Value

A character vector of package names that can be used to import the file format

find.packages_path  Find the R Packages to Import a File Format

Description

This function takes a file path as input and searches the CRAN repository for R packages that can import the file format.

Usage

find.packages_path(file_path)

Arguments

file_path  A character string specifying the file path of the file to be imported.

Value

A character string that lists the R packages that can be used to import the file format of the input file.
find_duplicate_cols

Examples

# Search for packages that can import a CSV file
find.packages_path("sample.csv")

# Search for packages that can import a JSON file
find.packages_path("sample.json")

find_duplicate_cols  Find Duplicate Columns

Description

This function takes a data frame as input and checks for duplicate columns. A column is considered a duplicate of another column if all values in both columns are the same. If any duplicate columns are found, the function prints a message indicating which columns are duplicates of which other columns. If no duplicate columns are found, the function prints a message indicating that no duplicates were found.

Usage

find_duplicate_cols(df)

Arguments

df  A data frame

Value

A message indicating which columns are duplicates of which other columns

Examples

df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "a"),
                 y = c(4, NA, -6, 4), z = c(7, 8, 180, 7))
find_duplicate_cols(df)
# Column 'c' is a duplicate of column 'a'
Description

This function identifies and reports duplicate rows in a given data frame. It first removes any rows with no values in all cells, and then compares each row to subsequent rows to check for duplicates. Duplicate rows are identified by having the same values in all columns. The function returns a message stating whether or not duplicate rows were found, and if so, the row numbers of the duplicate and original rows.

Usage

find_duplicate_rows(df)

Arguments

df A data frame to check for duplicate rows.

Value

A message stating whether or not duplicate rows were found, and if so, the row numbers of the duplicate and original rows.

Examples

# Create example data frame
df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "a"),
                 y = c(4, 5, -6, 4), z = c(7, 8, NA, 7))
# Find duplicate rows
find_duplicate_rows(df)
**Arguments**

df  
A data frame to be processed.

**Value**

The cleaned data frame.

**Examples**

df <- data.frame("1st col" = c("", "foo", ""), "2nd col" = c("", "", "bar"), "3rd col" = c(1, 2, 3))
fix.data(df)
**Fix Column Names**

Description

This function removes "X." or "X" from the beginning of column names and replaces any "." with "_". It also removes leading/trailing symbols and spaces, and ensures that there is only one underscore between two words. If there are duplicate column names, it appends a number to each duplicate column name to make it unique.

Usage

```r
fix_column_names(data)
```

Arguments

data A data frame with improperly formatted column names.

Value

The modified data frame with fixed column names.

Examples

```r
my_data <- data.frame("Col1" = c(1, 2, 3), "Col.2" = c(4, 5, 6), check.names = FALSE)
fix_column_names(my_data)
```

**Replace spaces in column names with underscores**

Description

This function takes a data frame as an argument and replaces all spaces in the column names with underscores.

Usage

```r
fix_col_spaces(df)
```

Arguments

df A data frame

Value

A modified data frame with spaces in column names replaced by underscores.
Examples

my_data <- data.frame("Column Name 1" = c(1, 2, 3), "Column Name 2" = c(4, 5, 6))

fix_col_spaces(my_data)
# Returns a data frame with column names where spaces are replaced by underscores.

---

**fix_data_names**

Fix row and column names of a data frame

Description

This function fixes the row and column names of a data frame by removing leading and trailing spaces, replacing spaces with underscores, and modifying duplicate names.

Usage

fix_data_names(df)

Arguments

df A data frame to be fixed

Value

A fixed data frame with modified row and column names

Examples

my_data <- data.frame("Col1" = c(1, 2, 3), "Col.2" = c(4, 5, 6), check.names = FALSE)
rownames(my_data) <- c(" Row1", " Row.2", "Row.3 ")
fix_column_names(fix_row_names(my_data))

---

**fix_duplicate_cols**

Remove duplicate columns from a data frame

Description

This function removes duplicate columns from a data frame.

Usage

fix_duplicate_cols(df)
Arguments

   df       A data frame

Value

A data frame with duplicate columns removed

Examples

   df <- data.frame(a = c(1, 1, 2), b = c(2, 2, 3))
   fix_duplicate_cols(df)

---

fix_duplicate_rows   Remove duplicate rows from a data frame

Description

This function removes duplicate rows from a data frame.

Usage

   fix_duplicate_rows(df)

Arguments

   df       A data frame

Value

A data frame with duplicate rows removed

Examples

   df <- data.frame(a = c(1, 1, 2), b = c(2, 2, 3))
   fix_duplicate_rows(df)
**fix_missing_alphanumeric_values**

*Fill missing values in alphanumeric columns*

**Description**

This function imputes missing values in alphanumeric columns of a data frame. If a column is numeric, missing values are imputed with the column mean. Otherwise, missing values are imputed with the column mode (most common value).

**Usage**

`fix_missing_alphanumeric_values(df)`

**Arguments**

- **df**

  A data frame with missing values.

**Value**

A data frame with imputed missing values.

**Examples**

```r
df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", NA),
                 y = c(4, 5, -6, 4), z = c(7, 8, NA, 7))
fix_missing_alphanumeric_values(df)
```

**fix_missing_numeric_values**

*fill_missing_numeric_values*

**Description**

A function to fill missing values in numeric columns of a data frame with the mean of the column.

**Usage**

`fix_missing_numeric_values(df)`

**Arguments**

- **df**

  A data frame with missing values.
fix_outliers

Value
A data frame with missing numeric values filled with the column mean.

Examples
df <- data.frame(w = c(7, 8, 180, 7), x = c("a", "b", "c", "d"),
y = c(4, 5, -6, 4), z = c(7, 8, NA, 7))
fix_missing_numeric_values(df)

fix_outliers

Remove Outliers from a Data Frame

Description
This function removes outlier rows from a data frame by identifying rows with values that are more
than 2 standard deviations away from the mean in any column.

Usage
fix_outliers(df)

Arguments

df A data frame to clean

Value
A cleaned data frame with outlier rows removed

Examples
df <- data.frame(x = c(1,2,3,4,5,6,7,8,9,10),
y = c(1,1,1,1,1,1,1,100,1,1))
fix_outliers(df)
**fix_row_names**

*Fix row names of a data frame*

**Description**

This function removes any leading "X." or "X" from the row names of a data frame, replaces any "." with "_", removes any leading or trailing symbols and spaces, and ensures that there is only one underscore between two words. Additionally, if there are duplicate row names, the function appends a number to each duplicate row name to make it unique.

**Usage**

```r
fix_row_names(data)
```

**Arguments**

- `data`: a data frame with improperly formatted row names

**Value**

a modified data frame with fixed row names

**Examples**

```r
my_data <- data.frame(" Col1" = c(1, 2, 3), "Col.2" = c(4, 5, 6), check.names = FALSE)
rownames(my_data) <- c(" Row1", " Row.2", "Row.3 ")
fix_row_names(my_data)
```

---

**fix_row_spaces**

*Replace spaces in row names with underscores*

**Description**

This function takes a data frame as an argument and replaces all spaces in the row names with underscores.

**Usage**

```r
fix_row_spaces(df)
```

**Arguments**

- `df`: A data frame
**Value**

A modified data frame with spaces in row names replaced by underscores.

**Examples**

```r
my_data <- data.frame("Column Name 1" = c(1, 2, 3), "Column Name 2" = c(4, 5, 6))
rownames(my_data) <- c("Row Name 1", "Row Name 2", "Row Name 3")
fix_row_spaces(my_data)
# Returns a data frame with row names where spaces are replaced by underscores.
```

---

**fix_special_characters_in_data**

*Remove Non-Alphanumeric Characters from Data Frame*

**Description**

This function removes non-alphanumeric characters from all non-numeric columns in a data frame. The columns are modified in-place.

**Usage**

```r
fix_special_characters_in_data(df)
```

**Arguments**

- `df` A data frame.

**Value**

A modified data frame where all non-numeric columns have had non-alphanumeric characters removed.

**Examples**

```r
df <- data.frame(a = c("A*B", "C&D"), b = c("1.2", "3.4"))
fix_special_characters_in_data(df)
# Output:
#   a  b
# 1  AB 1.2
# 2  CD 3.4
```
Remove Special Characters from Data Frame Column and Row Names

Description
This function removes any non-alphanumeric characters from both the row and column names of a given data frame.

Usage
fix_special_characters_in_names(df)

Arguments
- df A data frame with non-alphanumeric characters in the column or row names.

Value
A data frame with all non-alphanumeric characters removed from the column and row names.

Examples
```r
df <- data.frame("Col1!" = c(1, 2, 3), "Col2?" = c(4, 5, 6))
rownames(df) <- c("Row1@", "Row2#", "Row3$")
fix_special_characters_in_names(df)
```
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