

# Package ‘dataCompareR’

July 22, 2025

**Title** Compare Two Data Frames and Summarise the Difference

**Version** 0.1.4

**Description** Easy comparison of two tabular data objects in R. Specifically designed to show differences between two sets of data in a useful way that should make it easier to understand the differences, and if necessary, help you work out how to remedy them. Aims to offer a more useful output than `all.equal()` when your two data sets do not match, but isn't intended to replace `all.equal()` as a way to test for equality.

**Depends** R (>= 3.2.3)

**Imports** dplyr (>= 0.5.0), knitr, stringi, markdown

**URL** <https://github.com/capitalone/dataCompareR>

**BugReports** <https://github.com/capitalone/dataCompareR/issues>

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**VignetteBuilder** knitr

**NeedsCompilation** no

**Author** Sarah Johnston [aut, cre],  
Rob Noble-Eddy [aut],  
Merlijn van Horssen [aut],  
Krishan Bhasin [aut],  
Sarah Pollicott [aut],  
Lukas Drapal [ctb],  
Nikolaos Perrakis [ctb],  
Nikhil Thomas Joy [ctb],  
Shahriar Asta [ctb],  
Karandeep Lidher [ctb],  
Dan Kellett [ctb],  
Kevin Chisholm [ctb],  
Laura Joy [ctb],  
Fergus Wadsley [ctb],  
Heather Hackett [ctb],

David Robinson [ctb],  
 Cheryl Renton [ctb],  
 Matt Triggs [ctb],  
 Carola Deppe [ctb],  
 Ruijing Li [ctb],  
 John Swift [ctb],  
 Capital One Services, LLC [cph]

**Maintainer** Sarah Johnston <Sarah.Johnston@capitalone.com>

**Repository** CRAN

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---

|                    |                           |
|--------------------|---------------------------|
| allVarMatchMessage | <i>allVarMatchMessage</i> |
|--------------------|---------------------------|

---

## Description

Returns data about matching

## Usage

allVarMatchMessage(x)

**Arguments**

x                      An dataCompareR object

**Value**

A string containing the required message

---

|            |                   |
|------------|-------------------|
| checkEmpty | <i>checkEmpty</i> |
|------------|-------------------|

---

**Description**

Checks if a df is actually a single NA, or has no columns

**Usage**

```
checkEmpty(df)
```

**Arguments**

df                    a data frame

**Value**

None. Stops if empty.

**Examples**

```
## Not run: checkEmpty(iris)
```

---

|                     |                            |
|---------------------|----------------------------|
| checkForRCompareCol | <i>checkForRcompareCol</i> |
|---------------------|----------------------------|

---

**Description**

checkForRcompareCol

**Usage**

```
checkForRCompareCol(df1)
```

**Arguments**

df1                   a data frame

**Value**

None. Stops if error.

**Examples**

```
## Not run: checkForRcompareCol(iris)
```

---

|                |                       |
|----------------|-----------------------|
| checkKeysExist | <i>checkKeysExist</i> |
|----------------|-----------------------|

---

**Description**

checkKeysExist

**Usage**

```
checkKeysExist(df, keys)
```

**Arguments**

- df                    a data frame
- keys                 a list of expected columns

**Value**

None. Stops if keys are not present as column names in df.

**Examples**

```
## Not run: checkKeysExist(iris, 'columnName')
```

---

|         |                |
|---------|----------------|
| checkNA | <i>CheckNA</i> |
|---------|----------------|

---

**Description**

Checks a data frame is NA - if so, stops

**Usage**

```
checkNA(df)
```

**Arguments**

- df                    A (probable) dataframe

**Value**

Nothing. Errors is df is NA

---

|                 |                                                 |
|-----------------|-------------------------------------------------|
| checkUniqueness | <i>Checks that a list of indexes are unique</i> |
|-----------------|-------------------------------------------------|

---

**Description**

Checks that a list of indexes are unique

**Usage**

```
checkUniqueness(df_indices)
```

**Arguments**

|            |                    |
|------------|--------------------|
| df_indices | A vector of values |
|------------|--------------------|

**Value**

Boolean - true if all values in vector are unique, false if not

**Examples**

```
## Not run: checkUniqueness(c('car', 'van', 'van'))  
## Not run: checkUniqueness(c('car', 'van', 'bus'))
```

---

|               |                                                                                                    |
|---------------|----------------------------------------------------------------------------------------------------|
| cleanColNames | <i>cleanColNames : get colnames, remove leading and trailing whitespace and push to upper case</i> |
|---------------|----------------------------------------------------------------------------------------------------|

---

**Description**

cleanColNames : get colnames, remove leading and trailing whitespace and push to upper case

**Usage**

```
cleanColNames(DF)
```

**Arguments**

|    |                 |
|----|-----------------|
| DF | Input dataframe |
|----|-----------------|

**Value**

colInfo dataframe containing original and treated column names of DF

---

|            |                   |
|------------|-------------------|
| coerceData | <i>coerceData</i> |
|------------|-------------------|

---

**Description**

coerceData

**Usage**

```
coerceData(doa, dob)
```

**Arguments**

|     |                                                                |
|-----|----------------------------------------------------------------|
| doa | Data object A (any object that can be coerced to a data frame) |
| dob | Data object B (any object that can be coerced to a data frame) |

**Value**

A list of 2 data frames, which is DOA and DOB coerced as data.frames

**Examples**

```
## Not run: irisMatrix <- as.matrix(iris)
## Not run: coerceData(irisMatrix,iris)
```

---

|                     |                                                                          |
|---------------------|--------------------------------------------------------------------------|
| coerceFactorsToChar | <i>coerceFactorsToChar: convert all factor type fields to characters</i> |
|---------------------|--------------------------------------------------------------------------|

---

**Description**

coerceFactorsToChar: convert all factor type fields to characters

**Usage**

```
coerceFactorsToChar(DF)
```

**Arguments**

|    |                 |
|----|-----------------|
| DF | Input dataframe |
|----|-----------------|

**Value**

DF with factor fields converted to character type

**Examples**

```
## Not run: coerceFactorsToChar(iris)
```

---

|                 |                                                                              |
|-----------------|------------------------------------------------------------------------------|
| collapseClasses | <i>collapseClasses. Collapse the classes of an object to a single string</i> |
|-----------------|------------------------------------------------------------------------------|

---

**Description**

collapseClasses. Collapse the classes of an object to a single string

**Usage**

```
collapseClasses(x)
```

**Arguments**

|   |            |
|---|------------|
| x | any object |
|---|------------|

**Value**

a string listing the classes of x, separated by commas

**Examples**

```
## Not run: collapseClasses(iris)
## Not run: collapseClasses("hello")
```

---

|                       |                                                                                    |
|-----------------------|------------------------------------------------------------------------------------|
| colsWithUnequalValues | <i>colsWithUnequalValues: a dataframe summarising a column with unequal values</i> |
|-----------------------|------------------------------------------------------------------------------------|

---

**Description**

colsWithUnequalValues: a dataframe summarising a column with unequal values

**Usage**

```
colsWithUnequalValues(x, mismatches)
```

**Arguments**

|            |                                                   |
|------------|---------------------------------------------------|
| x          | the column to be considered                       |
| mismatches | - a mismatches object from an dataCompareR object |

**Value**

data frame with a summary of the mismatching column

---

|             |                                                            |
|-------------|------------------------------------------------------------|
| compareData | <i>Compare data. Wrapper for comparison functionality.</i> |
|-------------|------------------------------------------------------------|

---

**Description**

Compare data. Wrapper for comparison functionality.

**Usage**

```
compareData(DFA, DFB, keys = NULL, maxMismatches)
```

**Arguments**

|               |                                                                                                                                                                                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DFA           | dataframe as returned from prepareData                                                                                                                                             |
| DFB           | dataframe as returned from prepareData                                                                                                                                             |
| keys          | vector of chars - names of index variables                                                                                                                                         |
| maxMismatches | Integer. The max number of mismatches to assess, after which dataCompareR will stop (without producing a dataCompareR object). Designed to improve performance for large datasets. |

**Value**

mismatchObject containing mismatch data for each of the variables in the dataframes

**Examples**

```
## Not run: compareData(iris, iris)

## Not run: iris2 <- iris
## Not run: iris2[1,1] <- 5.2
## Not run: iris2[2,1] <- 5.2
## Not run: compareData(iris, iris2)

## Not run: compareData(pressure, pressure, keys = 'temperature')
```

---

|              |                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| compareNames | <i>compareNames : compare the intersect of colInfoA and colInfoB and return boolean of matched columns for each data frame</i> |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|

---

**Description**

compareNames : compare the intersect of colInfoA and colInfoB and return boolean of matched columns for each data frame

**Usage**

```
compareNames(colInfoA, colInfoB)
```

**Arguments**

colInfoA      input data frames with original and treated column names  
colInfoB      input data frames with original and treated column names

---

|                  |                                                        |
|------------------|--------------------------------------------------------|
| createAntiSubset | <i>Create a dataframe of the rows that don't match</i> |
|------------------|--------------------------------------------------------|

---

**Description**

Create a dataframe of the rows that don't match

**Usage**

```
createAntiSubset(index_antisubset, original_keys, index_key, df)
```

**Arguments**

index\_antisubset      Vector of mismatching indices  
original\_keys      A character array  
index\_key      A character array  
df      A data frame

**Value**

A dataframe containing the dropped rows

---

|                    |                                                                                |
|--------------------|--------------------------------------------------------------------------------|
| createCleaningInfo | <i>Converts cleaning info into a format consumable by updateCompareObject.</i> |
|--------------------|--------------------------------------------------------------------------------|

---

**Description**

Converts cleaning info into a format consumable by updateCompareObject.

**Usage**

```
createCleaningInfo(compObj, cleaningInfo)
```

**Arguments**

compObj            dataCompareRobject to be updated  
cleaningInfo      list of cleaning information

**Value**

compObj updated dataCompareRobject

---

|                   |                                                                                                         |
|-------------------|---------------------------------------------------------------------------------------------------------|
| createColMatching | <i>Converts the output of the column matching logic to something consumable by updateCompareObject.</i> |
|-------------------|---------------------------------------------------------------------------------------------------------|

---

**Description**

Converts the output of the column matching logic to something consumable by updateCompareObject.

**Usage**

```
createColMatching(compObj, colMatchInfo)
```

**Arguments**

compObj            dataCompareRobject instance to be updated  
colMatchInfo      List output from the column matching logic

**Value**

compObj updated with colMatching block

---

|                     |                                                                      |
|---------------------|----------------------------------------------------------------------|
| createCompareObject | <i>Generates an empty list of the correct class to store results</i> |
|---------------------|----------------------------------------------------------------------|

---

**Description**

Generates an empty list of the correct class to store results

**Usage**

```
createCompareObject()
```

**Value**

A list of class dataCompareRObject

---

|            |                                                                                                                               |
|------------|-------------------------------------------------------------------------------------------------------------------------------|
| createMeta | <i>Takes the raw info for the meta block of the output and puts it in a format usable by the updateCompareObject function</i> |
|------------|-------------------------------------------------------------------------------------------------------------------------------|

---

### Description

Takes the raw info for the meta block of the output and puts it in a format usable by the updateCompareObject function

### Usage

```
createMeta(dataCompareRobj, DFA, DFB, arguments, timestamp, roundDigits)
```

### Arguments

|                 |                                                                                                          |
|-----------------|----------------------------------------------------------------------------------------------------------|
| dataCompareRobj | Object of class dataCompareRobj                                                                          |
| DFA             | First data set passed in to the dataCompareR function                                                    |
| DFB             | Second data set passed in to the dataCompareR function                                                   |
| arguments       | Collection of arguments passed to compare object with labels that match the dataCompareR arg definitions |
| timestamp       | Timestamp                                                                                                |
| roundDigits     | The number of digits to round to, using <a href="#">round</a>                                            |

### Value

dataCompareRobj

---

|                  |                               |
|------------------|-------------------------------|
| createMismatches | <i>Create mismatch object</i> |
|------------------|-------------------------------|

---

### Description

Create mismatch object

### Usage

```
createMismatches(compObj, misObj, keys)
```

### Arguments

|         |                                                                                                                |
|---------|----------------------------------------------------------------------------------------------------------------|
| compObj | RCompareObject, output from processFlow                                                                        |
| misObj  | MismatchObject, output from compareData (processFlow)                                                          |
| keys    | Character vector, the keys matched on, to allow removal of any extra columns introduced by the compare process |

**Value**

The mismatch object

---

|                      |                               |
|----------------------|-------------------------------|
| createMismatchObject | <i>Create mismatch object</i> |
|----------------------|-------------------------------|

---

**Description**

Create mismatch object

**Usage**

```
createMismatchObject(dat_a, dat_b, dat_eq, str_index)
```

**Arguments**

|           |                                                 |
|-----------|-------------------------------------------------|
| dat_a     | dataframe, output from prepareData              |
| dat_b     | dataframe, output from prepareDate              |
| dat_eq    | dataframe, output from locateMismatches         |
| str_index | vector of index variables (could have length 1) |

**Value**

An dataCompareR mismatch object

**Examples**

```
## Not run: createMismatchObject(dataA, dataB, mism, idx)
```

---

|                  |                                                                                                                                                                                                                                                                                                |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| createReportText | <i>createReportText: prepares text which is used in the summary report Saves R markdown and HTML reports in the area specified by the user. Reports are called RcompareReport.Rmd (.html) Uses knitr package to create tables in the markdown (createReportText function) and HTML report.</i> |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

---

**Description**

createReportText: prepares text which is used in the summary report Saves R markdown and HTML reports in the area specified by the user. Reports are called RcompareReport.Rmd (.html) Uses knitr package to create tables in the markdown (createReportText function) and HTML report.

**Usage**

```
createReportText(x)
```

**Arguments**

x                      input object which summary comparison information

**Value**

text in R markdown format

**Examples**

```
## Not run: createReportText(x=MysummaryCompareObject)
```

---

|                   |                                                                                                          |
|-------------------|----------------------------------------------------------------------------------------------------------|
| createRowMatching | <i>function for updating a compare object with information passed to it from the match rows function</i> |
|-------------------|----------------------------------------------------------------------------------------------------------|

---

**Description**

function for updating a compare object with information passed to it from the match rows function

**Usage**

```
createRowMatching(compObj, x, matchKey)
```

**Arguments**

|          |                                                                                               |
|----------|-----------------------------------------------------------------------------------------------|
| compObj  | dataCompareRobject to be updated                                                              |
| x        | Object of information with classes related to the relevant section of the data-CompareRobject |
| matchKey | the list of keys based on which the row matching was performed                                |

**Value**

compObj Updated dataCompareRobject

---

|                   |                                                                                 |
|-------------------|---------------------------------------------------------------------------------|
| createTextSummary | <i>createTextSummary: create a text based summary of an dataCompareR object</i> |
|-------------------|---------------------------------------------------------------------------------|

---

**Description**

createTextSummary: create a text based summary of an dataCompareR object

**Usage**

```
createTextSummary(x, ...)
```

**Arguments**

|     |                                        |
|-----|----------------------------------------|
| x   | an dataCompareR object                 |
| ... | Arguments passed on to other functions |

**Value**

cat's lines to the screen (or to be captured) cat(newLine)

---

|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| currentObjVersion | <i>Place to store and access the current object version.</i> |
|-------------------|--------------------------------------------------------------|

---

**Description**

Place to store and access the current object version.

**Usage**

```
currentObjVersion()
```

**Value**

currentVersion int of the version number

---

|                  |                          |
|------------------|--------------------------|
| executeCoercions | <i>executeCoercions:</i> |
|------------------|--------------------------|

---

### Description

executeCoercions:

### Usage

```
executeCoercions(DFA, DFB, WhitespaceTrim = TRUE)
```

### Arguments

|                |                                                                                                    |
|----------------|----------------------------------------------------------------------------------------------------|
| DFA            | Input dataframe A                                                                                  |
| DFB            | Input dataframe B                                                                                  |
| WhitespaceTrim | User defined boolean for whether leading/trailing white space is trimmed in strings (TRUE / FALSE) |

### Value

out list containing 3 data frames DFA, DFB and DataTypes

DFA Dataframe with factor fields converted to character type and white space trimming (if option is selected by the user)

DFB Dataframe with factor fields converted to character type and white space trimming (if option is selected by the user)

DataTypes Dataframe with field types before and after cleaning for both DFA and DFB

### Examples

```
## Not run: executeCoercions(DFA=iris,DFB=iris,WhitespaceTrim= TRUE)
```

---

|                      |                                                    |
|----------------------|----------------------------------------------------|
| generateMismatchData | <i>Extract data from a dataCompareR comparison</i> |
|----------------------|----------------------------------------------------|

---

### Description

Produces a list of two data frames, containing the mismatched rows from the two input tables

Note that this function requires the user to pass in the two data frames used in the initial comparison. If this data does not match that used for the generation of the dataCompareR object the results produced will not be accurate.

### Usage

```
generateMismatchData(x, dfA, dfB, ...)
```

Arguments

|     |                                                                                                                 |
|-----|-----------------------------------------------------------------------------------------------------------------|
| x   | A dataCompareRobject.                                                                                           |
| dfA | Data frame (or object coercable to a data frame). One of the two data frames used in the initial rCompare call. |
| dfB | Data frame (or object coercable to a data frame). One of the two data frames used in the initial rCompare call. |
| ... | Unused currently, may be used in future                                                                         |

Value

mismatchData A list containing two objects: mismatched rows in first data object and mismatched rows in second data object

See Also

Other dataCompareR.functions: [print.dataCompareRobject\(\)](#), [rCompare\(\)](#), [saveReport\(\)](#), [summary.dataCompareRobject\(\)](#)

---

|              |                                                       |
|--------------|-------------------------------------------------------|
| getCoercions | <i>Subsets on the variables that have a coercion.</i> |
|--------------|-------------------------------------------------------|

---

Description

Subsets on the variables that have a coercion.

Usage

```
getCoercions(typesDf)
```

Arguments

|         |                                                                 |
|---------|-----------------------------------------------------------------|
| typesDf | Dataframe of type information from the executeCoercion function |
|---------|-----------------------------------------------------------------|

Value

coercedT Subset version of typesDf where a coercion occurred

---

|                     |                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------|
| getMismatchColNames | <i>Extracts the column names only in one data frame from a table of match information</i> |
|---------------------|-------------------------------------------------------------------------------------------|

---

**Description**

Extracts the column names only in one data frame from a table of match information

**Usage**

```
getMismatchColNames(colMatchInfo, colNameCol, matchFlagCol)
```

**Arguments**

|              |                                          |
|--------------|------------------------------------------|
| colMatchInfo | Dataframe with column names, match flag  |
| colNameCol   | Name of the column with the column names |
| matchFlagCol | Name of the column with the match flag   |

**Value**

Vector of column names that do not match

---

|                       |                                                    |
|-----------------------|----------------------------------------------------|
| is.dataCompareRobject | <i>Check object is of class dataCompareRobject</i> |
|-----------------------|----------------------------------------------------|

---

**Description**

Check object is of class dataCompareRobject

**Usage**

```
is.dataCompareRobject(x)
```

**Arguments**

|   |           |
|---|-----------|
| x | An object |
|---|-----------|

**Value**

A boolean: TRUE if object is class dataCompareRobject and FALSE if not

---

|           |                                      |
|-----------|--------------------------------------|
| isNotNull | <i>isNotNull: is object not null</i> |
|-----------|--------------------------------------|

---

**Description**

isNotNull: is object not null

**Usage**

```
isNotNull(x)
```

**Arguments**

|   |           |
|---|-----------|
| x | an object |
|---|-----------|

**Value**

boolean is object null T/F

**Examples**

```
## Not run: isNotNull(NULL)
## Not run: isNotNull(5)
```

---

|            |                   |
|------------|-------------------|
| isSingleNA | <i>isSingleNA</i> |
|------------|-------------------|

---

**Description**

Boolean function - T if x is a single NA. False otherwise.

**Usage**

```
isSingleNA(x)
```

**Arguments**

|   |                    |
|---|--------------------|
| x | literally anything |
|---|--------------------|

**Value**

boolean

---

|                   |                          |
|-------------------|--------------------------|
| listObsNotVerbose | <i>listObsNotVerbose</i> |
|-------------------|--------------------------|

---

**Description**

Return a summary of mismatching data

**Usage**

```
listObsNotVerbose(i, x, uniquevarlist, nObs)
```

**Arguments**

|               |                                                |
|---------------|------------------------------------------------|
| i             | The position of the element we want to compare |
| x             | An dataCompareR object                         |
| uniquevarlist | A list of the variables in the compare         |
| nObs          | How many observations to return                |

**Value**

A list of mismatching observations from start/end of mismatches

---

|                |                       |
|----------------|-----------------------|
| listObsVerbose | <i>listObsVerbose</i> |
|----------------|-----------------------|

---

**Description**

Return all mismatching data

**Usage**

```
listObsVerbose(i, x)
```

**Arguments**

|   |                                                |
|---|------------------------------------------------|
| i | The position of the element we want to compare |
| x | An dataCompareR object                         |

**Value**

A list of mismatching observations

---

|                  |                                                                    |
|------------------|--------------------------------------------------------------------|
| locateMismatches | <i>Checks whether elements in two input data frames are equal.</i> |
|------------------|--------------------------------------------------------------------|

---

**Description**

Checks whether elements in two input data frames are equal.

**Usage**

```
locateMismatches(DFA, DFB, keys = NULL, maxMismatches = NA)
```

**Arguments**

|               |                                                                                                                                                                                    |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DFA           | input data frame                                                                                                                                                                   |
| DFB           | input data frame                                                                                                                                                                   |
| keys          | character vector of index variables                                                                                                                                                |
| maxMismatches | Integer. The max number of mismatches to assess, after which dataCompareR will stop (without producing a dataCompareR object). Designed to improve performance for large datasets. |

**Value**

data frame containing keys and boolean logic of match/no match for each element If data types are not equal returns FALSE. Treats NA and NaN as unequal.

---

|               |                      |
|---------------|----------------------|
| makeValidKeys | <i>makeValidKeys</i> |
|---------------|----------------------|

---

**Description**

Correct syntactically invalid Keys

**Usage**

```
makeValidKeys(keys)
```

**Arguments**

|      |                    |
|------|--------------------|
| keys | A character vector |
|------|--------------------|

**Value**

A character vector with syntactically valid names

**Examples**

```
## Not run: makeValidKeys(c(" hello", "__BAD NAME__"))
```

---

|                |                       |
|----------------|-----------------------|
| makeValidNames | <i>makeValidNames</i> |
|----------------|-----------------------|

---

**Description**

Correct syntactically invalid names in a data frame

**Usage**

```
makeValidNames(df)
```

**Arguments**

|    |              |
|----|--------------|
| df | A data frame |
|----|--------------|

**Value**

A data frame with syntactically valid names

**Examples**

```
## Not run: makeValidNames(iris)
```

---

|              |                                                                                                          |
|--------------|----------------------------------------------------------------------------------------------------------|
| matchColumns | <i>matchColumns : create subset of DFA and DFB to contain matching column names for both data frames</i> |
|--------------|----------------------------------------------------------------------------------------------------------|

---

**Description**

matchColumns : create subset of DFA and DFB to contain matching column names for both data frames

**Usage**

```
matchColumns(DFA, DFB)
```

**Arguments**

|     |                  |
|-----|------------------|
| DFA | input data frame |
| DFB | input data frame |

**Value**

matchColOut named list of data frames. subsetA,subsetB contain only columns common to both data frames. colInfoA,colInfoB contain mapping of column names from original to treated and boolean indicator of common columns.

---

|                 |                                                                                       |
|-----------------|---------------------------------------------------------------------------------------|
| matchMultiIndex | <i>Generate two dataframes that contain the same rows based on a two-column index</i> |
|-----------------|---------------------------------------------------------------------------------------|

---

**Description**

Generate two dataframes that contain the same rows based on a two-column index

**Usage**

```
matchMultiIndex(df_a, df_b, indices)
```

**Arguments**

|         |               |
|---------|---------------|
| df_a    | A dataframe   |
| df_b    | A dataframe   |
| indices | A char vector |

**Value**

A list containing the two dataframes, subsetting by shared indices, and a list which itself contains the vectors for the dropped rows

---

|              |                                                                                       |
|--------------|---------------------------------------------------------------------------------------|
| matchNoIndex | <i>Generate two dataframes that contain the same rows based on a two-column index</i> |
|--------------|---------------------------------------------------------------------------------------|

---

**Description**

Generate two dataframes that contain the same rows based on a two-column index

**Usage**

```
matchNoIndex(df_a, df_b)
```

**Arguments**

|      |             |
|------|-------------|
| df_a | A dataframe |
| df_b | A dataframe |

**Value**

A list containing the two dataframes, subsetting to the size of the smaller one, and a list containing vectors of the rows dropped.

---

|           |                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------|
| matchRows | <i>Generate two dataframes and returns subsets of these dataframes that have shared rows.</i> |
|-----------|-----------------------------------------------------------------------------------------------|

---

**Description**

Generate two dataframes and returns subsets of these dataframes that have shared rows.

**Usage**

```
matchRows(df_a, df_b, indices = NA)
```

**Arguments**

|         |                                                                                                         |
|---------|---------------------------------------------------------------------------------------------------------|
| df_a    | A dataframe                                                                                             |
| df_b    | A dataframe                                                                                             |
| indices | The indices to match rows between df_a and df_b. Can be NA, single character, or a vector of characters |

**Value**

A list containing the two dataframes, subsetting by shared indices, and a list which itself contains dataframes for the dropped rows

---

|                  |                                                                                   |
|------------------|-----------------------------------------------------------------------------------|
| matchSingleIndex | <i>Generate two dataframes that contain the same rows based on a single index</i> |
|------------------|-----------------------------------------------------------------------------------|

---

**Description**

Generate two dataframes that contain the same rows based on a single index

**Usage**

```
matchSingleIndex(df_a, df_b, index_key, original_keys)
```

**Arguments**

|               |                    |
|---------------|--------------------|
| df_a          | A dataframe        |
| df_b          | A dataframe        |
| index_key     | A character vector |
| original_keys | A character vector |

**Value**

A list containing the two dataframes, subsetting by shared indices, and a list which itself contains the vectors for the dropped rows

---

|              |                                                    |
|--------------|----------------------------------------------------|
| metaDataInfo | <i>Creates a list of info about the dataframe.</i> |
|--------------|----------------------------------------------------|

---

**Description**

Creates a list of info about the dataframe.

**Usage**

```
metaDataInfo(name, df)
```

**Arguments**

|      |                                                                 |
|------|-----------------------------------------------------------------|
| name | The variable name of the df from the dataCompareR function call |
| df   | A data frame                                                    |

**Value**

dfInfo A list of info about the data frame

---

|                  |                                                                          |
|------------------|--------------------------------------------------------------------------|
| mismatchHighStop | <i>mismatchHighStop Checks if we've exceeded threshold of mismatches</i> |
|------------------|--------------------------------------------------------------------------|

---

**Description**

mismatchHighStop Checks if we've exceeded threshold of mismatches

**Usage**

```
mismatchHighStop(trueFalseMatrix, maxMismatches)
```

**Arguments**

|                 |                                                 |
|-----------------|-------------------------------------------------|
| trueFalseMatrix | a matrix of true/false                          |
| maxMismatches   | number of mismatches at which the routine stops |

**Value**

Nothing. Stops if threshold exceeded

---

|              |                                                            |
|--------------|------------------------------------------------------------|
| orderColumns | <i>orderColumns: order columns by treated column names</i> |
|--------------|------------------------------------------------------------|

---

**Description**

orderColumns: order columns by treated column names

**Usage**

orderColumns(colInfo)

**Arguments**

colInfo                  dataframe containing original and treated column names of DF

**Value**

ordered colInfo dataframe containing original and treated column names of DF

---

|                     |                                                            |
|---------------------|------------------------------------------------------------|
| outputSectionHeader | <i>outputSectionHeader: creates an outputSectionHeader</i> |
|---------------------|------------------------------------------------------------|

---

**Description**

outputSectionHeader: creates an outputSectionHeader

**Usage**

outputSectionHeader(headerName)

**Arguments**

headerName              a header name

**Value**

character a character based section headers

---

|             |                                                                                                                                                                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| prepareData | <i>prepareData Prepares data for comparison in 3 stages. 1. Match columns - filter dataframes to those columns that match and summarise differences 2. Match rows - filter dataframes to those rows that match and summarise differences 3. Coerce data</i> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

---

## Description

prepareData Prepares data for comparison in 3 stages. 1. Match columns - filter dataframes to those columns that match and summarise differences 2. Match rows - filter dataframes to those rows that match and summarise differences 3. Coerce data

## Usage

```
prepareData(dfA, dfB, keys = NA, trimChars = TRUE)
```

## Arguments

|           |                                                                                                                                                                                                                        |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dfA       | data frame. The first data object. dataCompareR will attempt to coerce all data objects to data frames.                                                                                                                |
| dfB       | data frame. The second data object. dataCompareR will attempt to coerce all data objects to data frames.                                                                                                               |
| keys      | String. Name of identifier column(s) used to compare dfA and dfB. NA if no identifier (row order will be used instead), a character for a single column name, or a vector of column names to match of multiple columns |
| trimChars | Boolean. If true, strings and factors have whitespace trimmed before comparison.                                                                                                                                       |

## Value

dataCompareRObject containing details of the comparison

## Examples

```
## Not run: dfA <- iris
## Not run: dfB <- iris
## Not run: keys <- NA
## Not run: prepareData(dfA,dfB,keys, trimChars = TRUE)
```

---

```
print.dataCompareObject
```

*Printing RCompare Output*

---

### Description

Prints a brief report of an dataCompareR object to the screen.

### Usage

```
## S3 method for class 'dataCompareObject'
print(x, nVars = 5, nObs = 5, verbose = FALSE, ...)
```

### Arguments

|         |                                                                                                     |
|---------|-----------------------------------------------------------------------------------------------------|
| x       | an object of class "dataCompareR", usually a result of a call to <a href="#">rCompare</a> .         |
| nVars   | the number of mismatched columns to print and extract rows for                                      |
| nObs    | the number of rows to print from the top and bottom of the mismatched list for each selected column |
| verbose | logical; if TRUE will print out the full list of columns and rows that do not match                 |
| ...     | Passes additional arguments to print                                                                |

### See Also

Other dataCompareR.functions: [generateMismatchData\(\)](#), [rCompare\(\)](#), [saveReport\(\)](#), [summary.dataCompareObject](#)

### Examples

```
rc1 <- rCompare(iris,iris)
print(rc1)
```

---

```
print.summary.dataCompareObject
```

*Printing summaryRCompare Output*

---

### Description

Printing summaryRCompare Output

### Usage

```
## S3 method for class 'summary.dataCompareObject'
print(x, ...)
```

**Arguments**

- x an object of class "summary.dataCompareRobject", usually a result of a call to [summary.dataCompareRobject](#).
- ... Additional arguments passed on to [createTextSummary](#)

**Examples**

```
rc1 <- rCompare(iris,iris)
summary(rc1)
```

processFlow

*processFlow Handles the process flow for the whole package***Description**

processFlow Handles the process flow for the whole package

**Usage**

```
processFlow(dfa, dfb, roundDigits, keys, mismatches, trimChars, argsIn)
```

**Arguments**

- dfa Dataframe. One of the two data frames to be compared
- dfb Dataframe. One of the two data frames to be compared
- roundDigits Integer. If NA, numerics are not rounded before comparison. If /coderoundDigits is specified, numerics are rounded to /coderoundDigits decimal places using [round](#).
- keys The keys used to match rows between dfa and dfb
- mismatches Integer. The max number of mismatches to assess, after which dataCompareR will stop (without producing a dataCompareR object). Designed to improve performance for large datasets.
- trimChars Boolean. Do we trim characters before comparing?
- argsIn The arguments that were passed to the main dataCompareR function

**Value**

dataCompareRobject containing details of the comparison

---

|          |                                |
|----------|--------------------------------|
| rCompare | <i>Compare two data frames</i> |
|----------|--------------------------------|

---

## Description

Compare two data frames (or objects coercible to data frames) and produce a dataCompareR object containing details of the matching and mismatching elements of the data. See `vignette("dataCompareR")` for more details.

## Usage

```
rCompare(
  dfA,
  dfB,
  keys = NA,
  roundDigits = NA,
  mismatches = NA,
  trimChars = FALSE
)
```

## Arguments

|             |                                                                                                                                                                                                                        |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| dfA         | data frame. The first data object. dataCompareR will attempt to coerce all data objects to data frames.                                                                                                                |
| dfB         | data frame. The second data object. dataCompareR will attempt to coerce all data objects to data frames.                                                                                                               |
| keys        | String. Name of identifier column(s) used to compare dfA and dfB. NA if no identifier (row order will be used instead), a character for a single column name, or a vector of column names to match of multiple columns |
| roundDigits | Integer. If NA, numerics are not rounded before comparison. If specified, numerics are rounded to the specified number of decimal places using <a href="#">round</a> .                                                 |
| mismatches  | Integer. The max number of mismatches to assess, after which dataCompareR will stop (without producing an dataCompareR object). Designed to improve performance for large data sets.                                   |
| trimChars   | Boolean. If true, strings and factors have whitespace trimmed before comparison.                                                                                                                                       |

## Value

An dataCompareR object. An S3 object containing details of the comparison between the two data objects. Can be used with [summary](#), [print](#), [saveReport](#) and [generateMismatchData](#)

## See Also

Other dataCompareR.functions: [generateMismatchData\(\)](#), [print.dataCompareRobject\(\)](#), [saveReport\(\)](#), [summary.dataCompareRobject\(\)](#)

**Examples**

```

iris2 <- iris
iris2 <- iris2[1:130,]
iris2[1,1] <- 5.2
iris2[2,1] <- 5.2
rCompare(iris,iris2,key=NA)
compDetails <- rCompare(iris,iris2,key=NA, trimChars = TRUE)
print(compDetails)
summary(compDetails)

pressure2 <- pressure
pressure2[2,2] <- pressure2[2,2] + 0.01
rCompare(pressure2,pressure2,key='temperature')
rCompare(pressure2,pressure2,key='temperature', mismatches = 10)

```

---

|                    |                                                                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| rcompObjItemLength | <i>rcompObjItemLength: return length of an item, returning 0 if null, and handling the fact that we might have a data frames or a vector</i> |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------|

---

**Description**

rcompObjItemLength: return length of an item, returning 0 if null, and handling the fact that we might have a data frames or a vector

**Usage**

```
rcompObjItemLength(x)
```

**Arguments**

x                      an object

**Value**

length, numeric

---

|         |                                                 |
|---------|-------------------------------------------------|
| rounddf | <i>Round all numeric fields in a data frame</i> |
|---------|-------------------------------------------------|

---

**Description**

Round all numeric fields in a data frame

**Usage**

```
rounddf(df, roundDigits)
```

**Arguments**

|             |                              |
|-------------|------------------------------|
| df          | A data frame to round        |
| roundDigits | Number of digits to round to |

**Value**

A rounded data frame

---

|            |                                                     |
|------------|-----------------------------------------------------|
| saveReport | <i>Save a report based on a dataCompareR object</i> |
|------------|-----------------------------------------------------|

---

**Description**

Saves R markdown and HTML reports in the area specified by the user.

Uses knitr and markdown to create reports. Reports have the extensions .Rmd or .html. By default the table.css style sheet is used for format the html output.

**Usage**

```
saveReport(
  compareObject,
  reportName,
  reportLocation = ".",
  HTMLReport = TRUE,
  showInViewer = TRUE,
  stylesheet = NA,
  printAll = FALSE,
  ...
)
```

**Arguments**

|                |                                                                                                                                                                                                                                                       |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| compareObject  | a dataCompareR object.                                                                                                                                                                                                                                |
| reportName     | String. The name of the report. Reports will be saved as reportName.Rmd and (optionally) reportName.html in reportLocation                                                                                                                            |
| reportLocation | String. Location to save reports specified by the user. The R markdown and (optionally) HTML reports will be saved in this area                                                                                                                       |
| HTMLReport     | Boolean. Option to output html report.                                                                                                                                                                                                                |
| showInViewer   | Boolean. Does the html report open automatically in the viewer?                                                                                                                                                                                       |
| stylesheet     | String. Optional link to customised css stylesheet                                                                                                                                                                                                    |
| printAll       | Boolean. If TRUE, all mis-matches in the data are printed to the file. This acts as a shortcut to get all mismatches in the report, compared to passing the number in mismatchCount. When TRUE, overrides the mismatchCount field passed via ellipses |
| ...            | Optional arguments which will be passed to summary, for example mismatchCount                                                                                                                                                                         |

**See Also**

Other dataCompareR.functions: [generateMismatchData\(\)](#), [print.dataCompareRobject\(\)](#), [rCompare\(\)](#), [summary.dataCompareRobject\(\)](#)

**Examples**

```
## Not run: saveReport(rcObj, reportName = 'testReport')
```

---

|                   |                                                                                                               |
|-------------------|---------------------------------------------------------------------------------------------------------------|
| subsetDataColumns | <i>subsetDataColumns : create subset of DFA and DFB to contain matching column names for both data frames</i> |
|-------------------|---------------------------------------------------------------------------------------------------------------|

---

**Description**

subsetDataColumns : create subset of DFA and DFB to contain matching column names for both data frames

**Usage**

```
subsetDataColumns(DFA, DFB, colInfoList)
```

**Arguments**

|             |                                                                                          |
|-------------|------------------------------------------------------------------------------------------|
| DFA         | input data frame                                                                         |
| DFB         | input data frame                                                                         |
| colInfoList | named list containing the column mapping data frames and the list of common column names |

**Value**

matchColOut named list of data frames. subsetA,subsetB contain only columns common to both data frames. colInfoA,colInfoB contain mapping of column names from original to treated and boolean indicator of common columns.

---

|                            |                                    |
|----------------------------|------------------------------------|
| summary.dataCompareRobject | <i>Summarizing RCompare Output</i> |
|----------------------------|------------------------------------|

---

**Description**

Summarizing RCompare Output

**Usage**

```
## S3 method for class 'dataCompareRobject'
summary(object, mismatchCount = 5, ...)
```

**Arguments**

|               |                                                                                  |
|---------------|----------------------------------------------------------------------------------|
| object        | an dataCompareR object, usually a result of a call to <a href="#">rCompare</a> . |
| mismatchCount | Integer. How many mismatches to include in tables                                |
| ...           | Passes any additional arguments (not used in current version)                    |

**Value**

The function `summary.dataCompareR` computes and returns a list of summary details from the `dataCompareR` output given in object containing

|                       |                                                                                                 |
|-----------------------|-------------------------------------------------------------------------------------------------|
| datanameA             | name of the first dataframe in the compare call                                                 |
| datanameB             | name of the second dataframe in the compare call                                                |
| nrowA                 | the number of rows in datanameA                                                                 |
| nrowB                 | the number of rows in datanameB                                                                 |
| version               | the version of <a href="#">rCompare</a> used to generate the dataCompareR object object         |
| runtime               | the date and time the dataCompareR object object was created                                    |
| rversion              | the version of R used                                                                           |
| datasetSummary        | a data frame containing the meta data information on datanameA and datanameB                    |
| ncolCommon            | the number of columns of the same name contained in both datanameA and datanameB                |
| ncolInAOnly           | the number of columns only in datanameA                                                         |
| ncolInBOnly           | the number of columns only in datanameB                                                         |
| ncolID                | the number of columns used to match rows in datanameA and datanameB                             |
| typeMismatch          | a data frame detailing which columns in both datanameA and datanameB have different class types |
| typeMismatchN         | the number of columns with different variable types                                             |
| nrowCommon            | the number of rows with matching ID columns in both datanameA and datanameB                     |
| nrowInAOnly           | the number of rows with non matching ID columns in datanameA                                    |
| nrowInBOnly           | the number of rows with non matching ID columns in datanameB                                    |
| nrowSomeUnequal       | the number of matched rows where at least one value is unequal                                  |
| nrowAllEqual          | the number of matched rows where all values are equal                                           |
| ncolsAllEqual         | the number of matched columns where all values are equal                                        |
| ncolsSomeUnequal      | the number of matched columns where at least one value is unequal                               |
| colsWithUnequalValues | a data frame detailing the mismatches for each matched column                                   |
| nrowNAmisMatch        | the number of matched numeric rows that contain a NA                                            |
| maxDifference         | the maximum difference between numeric columns from all matched columns                         |

See Also

Other dataCompareR.functions: [generateMismatchData\(\)](#), [print.dataCompareRobj\(\)](#), [rCompare\(\)](#), [saveReport\(\)](#)

Examples

```
rc1 <- rCompare(iris,iris)
summary(rc1)
```

---

|              |                                                                                       |
|--------------|---------------------------------------------------------------------------------------|
| trimCharVars | <i>trimCharVars: trim white spaces in character variables from an input dataframe</i> |
|--------------|---------------------------------------------------------------------------------------|

---

Description

trimCharVars: trim white spaces in character variables from an input dataframe

Usage

```
trimCharVars(DF)
```

Arguments

DF                      Input dataframe

Value

DF with preceding and trailing white spaces removed from character fields

Examples

```
## Not run: trimCharVars(iris)
```

---

|                     |                                                                                                                                                |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| updateCompareObject | <i>Generic function for updating a compare object with information passed to it, that has methods based on the class of the info argument.</i> |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------|

---

Description

Generic function for updating a compare object with information passed to it, that has methods based on the class of the info argument.

Usage

```
updateCompareObject(x, compObj)
```

**Arguments**

|         |                                                                                               |
|---------|-----------------------------------------------------------------------------------------------|
| x       | Object of information with classes related to the relevant section of the data-CompareRobject |
| compObj | dataCompareRobject to be updated                                                              |

**Value**

compObj Updated dataCompareRobject

---

updateCompareObject.cleaninginfo

*Updates cleaning info in the compare object*

---

**Description**

Updates cleaning info in the compare object

**Usage**

```
## S3 method for class 'cleaninginfo'
updateCompareObject(x, compObj)
```

**Arguments**

|         |                                           |
|---------|-------------------------------------------|
| x       | list of type cleaninginfo with data types |
| compObj | dataCompareRobject to be updated          |

**Value**

compObj updated dataCompareRobject

---

updateCompareObject.colmatching

*Adds a colMatching block to the output*

---

**Description**

Adds a colMatching block to the output

**Usage**

```
## S3 method for class 'colmatching'
updateCompareObject(x, compObj)
```

**Arguments**

|         |                                                     |
|---------|-----------------------------------------------------|
| x       | List of class colmatching with column matching info |
| compObj | dataCompareRobject instance to be updated           |

**Value**

compObj Updated dataCompareRobject

---

updateCompareObject.matches

*Adds a colMatching block to the output*

---

**Description**

Adds a colMatching block to the output

**Usage**

```
## S3 method for class 'matches'
updateCompareObject(x, compObj)
```

**Arguments**

|         |                                                   |
|---------|---------------------------------------------------|
| x       | List of class 'matches' with column matching info |
| compObj | dataCompareRobject instance to be updated         |

**Value**

compObj Updated dataCompareRobject

---

updateCompareObject.meta

*Takes raw info for meta and adds it to the compare object*

---

**Description**

Takes raw info for meta and adds it to the compare object

**Usage**

```
## S3 method for class 'meta'
updateCompareObject(x, compObj)
```

**Arguments**

x                      List of class 'meta' with data related to meta  
 compObj                dataCompareRobject to be appended

**Value**

compObj dataCompareRobject updated with meta block

---

updateCompareObject.mismatches

*Adds a colMatching block to the output*

---

**Description**

Adds a colMatching block to the output

**Usage**

```
## S3 method for class 'mismatches'
updateCompareObject(x, compObj)
```

**Arguments**

x                      List of class 'mismatches' with column matching info  
 compObj                dataCompareRobject instance to be updated

**Value**

compObj Updated dataCompareRobject

---

updateCompareObject.rowmatching

*Adds a rowMatching block to the output*

---

**Description**

Adds a rowMatching block to the output

**Usage**

```
## S3 method for class 'rowmatching'
updateCompareObject(x, compObj)
```

Arguments

- x                      List of class rowMatching with row matching info
- compObj                dataCompareRobject instance to be updated

Value

compObj Updated dataCompareRobject

---

|                   |                          |
|-------------------|--------------------------|
| validateArguments | <i>validateArguments</i> |
|-------------------|--------------------------|

---

Description

validateArguments

Usage

```
validateArguments(  
  matchKey = NA,  
  roundDigits = NA,  
  coerceCols = TRUE,  
  maxMismatch = NA  
)
```

Arguments

- matchKey                A character or character vector of column names to match on
- roundDigits             Integer. If NA, numerics are not rounded before comparison. If specified, numerics are rounded to the specified number of decimal places using [round](#).
- coerceCols                Boolean - do we coerce columns names?
- maxMismatch              Cap for number of mismatches

Value

Nothing. Errors if any parameters are invalid.

Examples

```
## Not run: validateArguments('plantName',1E-8,T,1000)  
## Not run: validateArguments('colorName',1E-9,F,10)
```

---

|              |                                                          |
|--------------|----------------------------------------------------------|
| validateData | <i>validateData : routine to validate the input data</i> |
|--------------|----------------------------------------------------------|

---

**Description**

validateData : routine to validate the input data

**Usage**

```
validateData(df1, df2, keys = NA)
```

**Arguments**

|      |              |
|------|--------------|
| df1  | a data frame |
| df2  | a data frame |
| keys | Keys used    |

**Value**

None. Stops if error.

**Examples**

```
## Not run: validateData(iris,iris)
```

---

|                 |                                         |
|-----------------|-----------------------------------------|
| variableDetails | <i>Create variable mismatch details</i> |
|-----------------|-----------------------------------------|

---

**Description**

Create variable mismatch details

**Usage**

```
variableDetails(dat)
```

**Arguments**

|     |                   |
|-----|-------------------|
| dat | The mismatch data |
|-----|-------------------|

**Value**

mismatch details

---

|                    |                                |
|--------------------|--------------------------------|
| variableMismatches | Create variable mismatch table |
|--------------------|--------------------------------|

---

**Description**

Create variable mismatch table

**Usage**

```
variableMismatches(varname, vals_a, vals_b, vector_eq)
```

**Arguments**

|           |                                       |
|-----------|---------------------------------------|
| varname   | variable to create mismatch table for |
| vals_a    | variables from dfA                    |
| vals_b    | variables from dfB                    |
| vector_eq | a list of columns which are equal     |

**Value**

Mismatch table

---

|               |                                                    |
|---------------|----------------------------------------------------|
| warnLargeData | Warn users if the calculation is likely to be slow |
|---------------|----------------------------------------------------|

---

**Description**

Checks if there are more than 20E6 elements for comparison. If there are, spits out a warning message that the calculation may run slowly

**Usage**

```
warnLargeData(nrow_dfa, ncol_dfa, nrow_dfb, ncol_dfb)
```

**Arguments**

|          |                                        |
|----------|----------------------------------------|
| nrow_dfa | number of rows in first data frame     |
| ncol_dfa | number of columns in first data frame  |
| nrow_dfb | number of rows in second data frame    |
| ncol_dfb | number of columns in second data frame |

**Value**

Nothing

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