

Package ‘bdpar’

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Type Package

Title Big Data Preprocessing Architecture

Version 3.0.3

Description Provide a tool to easily build customized data flows to pre-process large volumes of information from different sources. To this end, 'bdpar' allows to (i) easily use and create new functionalities and (ii) develop new data source extractors according to the user needs. Additionally, the package provides by default a predefined data flow to extract and pre-process the most relevant information (tokens, dates, ...) from some textual sources (SMS, Email, tweets, YouTube comments).

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URL <https://github.com/miferreiro/bdpar>

BugReports <https://github.com/miferreiro/bdpar/issues>

Depends R (>= 3.5.0)

Imports digest, parallel, R6, rlist, tools, utils

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VignetteBuilder knitr

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'BdparOptions.R' 'Connections.R' 'ContractionPipe.R'
'DefaultPipeline.R' 'DynamicPipeline.R' 'ExtractorEml.R'
'ExtractorFactory.R' 'ExtractorSms.R' 'ExtractorTwtid.R'
'ExtractorYtbid.R' 'File2Pipe.R' 'FindEmojiPipe.R'
'FindEmoticonPipe.R' 'FindHashtagPipe.R' 'FindUrlPipe.R'
'FindUserNamePipe.R' 'GenericPipe.R' 'GenericPipeline.R'
'GuessDatePipe.R' 'GuessLanguagePipe.R' 'Instance.R'

'InterjectionPipe.R' 'MeasureLengthPipe.R' 'ResourceHandler.R'
 'SlangPipe.R' 'StopWordPipe.R' 'StoreFileExtPipe.R'
 'TargetAssigningPipe.R' 'TeeCSVPipe.R' 'ToLowerCasePipe.R'
 'bdpar.Options.R' 'bdparData.R' 'eml.R' 'emojisData.R'
 'operator-pipe.R' 'runPipeline.R' 'zzz.R'

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AbbreviationPipe	<i>Class to find and/or replace the abbreviations on the data field of an Instance</i>
------------------	--

Description

AbbreviationPipe class is responsible for detecting the existing abbreviations in the **data** field of each Instance. Identified abbreviations are stored inside the **abbreviation** field of Instance class. Moreover if needed, is able to perform inline abbreviations replacement.

Details

AbbreviationPipe class requires the resource files (in json format) containing the correspondence between abbreviations and meaning. To this end, the language of the text indicated in the *propertyLanguageName* should be contained in the resource file name (ie. abbrev.xxx.json where xxx is the value defined in the *propertyLanguageName*). The location of the resources should be defined in the "**resources.abbreviations.path**" field of *bdpar.Options* variable.

Note

AbbreviationPipe will automatically invalidate the Instance whenever the obtained data is empty.

Inherit

This class inherits from GenericPipe and implements the pipe abstract function.

Super class

`bdpar::GenericPipe -> AbbreviationPipe`

Methods

Public methods:

- `AbbreviationPipe$new()`
- `AbbreviationPipe$pipe()`
- `AbbreviationPipe$findAbbreviation()`
- `AbbreviationPipe$replaceAbbreviation()`
- `AbbreviationPipe$getPropertyLanguageName()`

- [AbbreviationPipe\\$getResourcesAbbreviationsPath\(\)](#)
- [AbbreviationPipe\\$setResourcesAbbreviationsPath\(\)](#)
- [AbbreviationPipe\\$clone\(\)](#)

Method `new()`: Creates a [AbbreviationPipe](#) object.

Usage:

```
AbbreviationPipe$new(
  propertyName = "abbreviation",
  propertyLanguageName = "language",
  alwaysBeforeDeps = list("GuessLanguagePipe"),
  notAfterDeps = list(),
  replaceAbbreviations = TRUE,
  resourcesAbbreviationsPath = NULL
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`propertyLanguageName` A [character](#) value. Name of the language property.

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

`replaceAbbreviations` A [logical](#) value. Indicates if the abbreviations are replaced or not.

`resourcesAbbreviationsPath` A [character](#) value. Path of resource files (in json format) containing the correspondence between abbreviations and meaning.

Method `pipe()`: Preprocesses the [Instance](#) to obtain/replace the abbreviations. The abbreviations found in the data are added to the list of properties of the [Instance](#).

Usage:

```
AbbreviationPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `findAbbreviation()`: Checks if the abbreviation is in the data.

Usage:

```
AbbreviationPipe$findAbbreviation(data, abbreviation)
```

Arguments:

`data` A [character](#) value. The text where abbreviation will be searched.

`abbreviation` A [character](#) value. Indicates the abbreviation to find.

Returns: A [logical](#) value depending on whether the abbreviation is in the data.

Method `replaceAbbreviation()`: Replaces the *abbreviation* in the data for the *extendedAbbreviation*.

Usage:

AbbreviationPipe\$replaceAbbreviation(abbreviation, extendedAbbreviation, data)

Arguments:

abbreviation A [character](#) value. Indicates the abbreviation to replace.

extendedAbbreviation A [character](#) value. Indicates the string to replace for the abbreviations found.

data A [character](#) value. The text where abbreviation will be replaced.

Returns: The data with the abbreviations replaced.

Method getPropertyLanguageName(): Gets the name of property language.

Usage:

AbbreviationPipe\$getPropertyLanguageName()

Returns: Value of name of property language.

Method getResourcesAbbreviationsPath(): Gets the path of abbreviations resources.

Usage:

AbbreviationPipe\$getResourcesAbbreviationsPath()

Returns: Value of path of abbreviations resources.

Method setResourcesAbbreviationsPath(): Sets the path of abbreviations resources.

Usage:

AbbreviationPipe\$setResourcesAbbreviationsPath(path)

Arguments:

path A [character](#) value. The new value of the path of abbreviations resources.

Method clone(): The objects of this class are cloneable with this method.

Usage:

AbbreviationPipe\$clone(deep = FALSE)

Arguments:

deep Whether to make a deep clone.

See Also

[bdpar.Options](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

 Bdpar

 Class to manage the preprocess of the files throughout the flow of pipes

Description

`Bdpar` class provides the static variables required to perform the whole data flow process. To this end `Bdpar` is in charge of (i) initialize the objects of handle the connections to APIs (`Connections`) and handles json resources (`ResourceHandler`) and (ii) executing the flow of pipes (inherited from `GenericPipeline` class) passed as argument.

Details

In the case that some pipe, defined on the workflow, needs some type of configuration, it can be defined through `bdpar.Options` variable which have different methods to support the functionality of different pipes.

Static variables

- **connections:** (`Connections`) object that handles the connections with YouTube and Twitter.
- **resourceHandler:** (`ResourceHandler`) object that handles the json resources files.

Methods

Public methods:

- `Bdpar$new()`
- `Bdpar$execute()`
- `Bdpar$clone()`

Method `new()`: Creates a `Bdpar` object. Initializes the static variables: `connections` and `resourceHandler`.

Usage:

```
Bdpar$new()
```

Method `execute()`: Preprocess files through the indicated flow of pipes.

Usage:

```
Bdpar$execute(
  path,
  extractors = ExtractorFactory$new(),
  pipeline = DefaultPipeline$new(),
  cache = TRUE,
  verbose = FALSE,
  summary = FALSE
)
```

Arguments:

`path` A `character` value. The path where the files to be processed are located.

extractors A [ExtractorFactory](#) value. Class which implements the createInstance method to choose which type of [Instance](#) is created.

pipeline A [GenericPipeline](#) value. Subclass of [GenericPipeline](#), which implements the execute method. By default, it is the [DefaultPipeline](#) pipeline.

cache (*logical*) flag indicating if the status of the instances will be stored after each pipe. This allows to avoid rejections of previously executed tasks, if the order and configuration of the pipe and pipeline is the same as what is stored in the cache.

verbose (*logical*) flag indicating for printing messages, warnings and errors.

summary (*logical*) flag indicating if a summary of the pipeline execution is provided or not.

Details: In case of wanting to parallelize, it is necessary to indicate the number of cores to be used through `bdpar.Options$set("numCores", numCores)`

Returns: The list of Instances that have been preprocessed.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
Bdpar$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[bdpar.Options](#), [Connections](#), [DefaultPipeline](#), [DynamicPipeline](#), [GenericPipeline](#), [Instance](#), [ExtractorFactory](#), [ResourceHandler](#), [runPipeline](#)

Examples

```
## Not run:

#If it is necessary to indicate any configuration, do it through:
#bdpar.Options$set(key, value)
#If the key is not initialized, do it through:
#bdpar.Options$add(key, value)

#If it is necessary parallelize, do it through:
#bdpar.Options$set("numCores", numCores)

#If it is necessary to change the behavior of the log, do it through:
#bdpar.Options$configureLog(console = TRUE, threshold = "INFO", file = NULL)

#Folder with the files to preprocess
path <- system.file("example",
                    package = "bdpar")

#Object which decides how creates the instances
extractors <- ExtractorFactory$new()

#Object which indicates the pipes' flow
pipeline <- DefaultPipeline$new()
```

```

objectBdpar <- Bdpar$new()

#Starting file preprocessing...
objectBdpar$execute(path = path,
                    extractors = extractors,
                    pipeline = pipeline,
                    cache = FALSE,
                    verbose = FALSE,
                    summary = TRUE)

## End(Not run)

```

bdpar.log	<i>Write messages to the log at a given priority level using the custom bdpar log</i>
-----------	---

Description

bdpar.log is responsible for managing the messages to show on the log.

Usage

```
bdpar.log(message, level = "INFO", className = NULL, methodName = NULL)
```

Arguments

message	A string to be printed to the log with the corresponding priority level.
level	The desired priority level (DEBUG,INFO,WARN,ERROR and FATAL). In the case of the FATAL level will be call to the stop function. Also, if the level is WARN, the message will be a warning.
className	A string to indicated in which class is called to the log. If the value is NULL, this field is not shown in the log.
methodName	A string to indicated in which method is called to the log. If the value is NULL, this field is not shown in the log.

Details

The format output is as following:

```
[currentTime][className][methodName][level] message
```

The type of message changes according to the level indicated:

- The **DEBUG,INFO** and **ERROR** levels return a text using the [message](#) function.
- The **WARN** level returns a text using the [warning](#) function.
- The **FATAL** level returns a text using the [stop](#) function.

Note

In the case of multithreading, the log will only be by file.

See Also[bdpar.Options](#)**Examples**

```
## Not run:

# First step, configure the behavior of log

bdpar.options$configureLog(console = TRUE, threshold = "DEBUG", file = NULL)

message <- "Message example"

className <- "Class name example"

methodName <- "Method name example"

bdpar.log(message = message, level = "DEBUG", className = NULL, methodName = NULL)

bdpar.log(message = message, level = "INFO", className = className, methodName = methodName)

bdpar.log(message = message, level = "WARN", className = className, methodName = NULL)

bdpar.log(message = message, level = "ERROR", className = NULL, methodName = NULL)

bdpar.log(message = message, level = "FATAL", className = NULL, methodName = methodName)

## End(Not run)
```

bdpar.Options	<i>Object to handle the keys/attributes/options common to all pipeline flow</i>
---------------	---

Description

This class provides the necessary methods to manage a list of keys or options used along the pipe flow, both those provided by the default library and those implemented by the user.

Usage

```
bdpar.Options
```

Details

By default, the application initializes the object named `bdpar.Options` of type `BdparOptions` which is in charge of initializing the options used in the defined pipes.

The default fields on [bdpar.Options](#) are initialized, if needed, as shown below:

[eml]

```
- bdpar.Options$set("extractorEML.mpaPartSelected", <<PartSelectedOnMPAlternative>>)
```

[resources]

```
- bdpar.Options$set("resources.abbreviations.path", <<abbreviation.path>>)
```

```
- bdpar.Options$set("resources.contractions.path", <<contractions.path>>)
```

```
- bdpar.Options$set("resources.interjections.path", <<interjections.path>>)
```

```
- bdpar.Options$set("resources.slangs.path", <<slangs.path>>)
```

```
- bdpar.Options$set("resources.stopwords.path", <<stopwords.path>>)
```

[twitter]

```
- bdpar.Options$set("twitter.consumer.key", <<consumer_key>>)
```

```
- bdpar.Options$set("twitter.consumer.secret", <<consumer_secret>>)
```

```
- bdpar.Options$set("twitter.access.token", <<access_token>>)
```

```
- bdpar.Options$set("twitter.access.token.secret", <<access_token_secret>>)
```

```
- bdpar.Options$set("cache.twitter.path", <<cache.path>>)
```

[teeCSVPipe]

```
- bdpar.Options$set("teeCSVPipe.output.path", <<output.path>>)
```

[youtube]

```
- bdpar.Options$set("youtube.app.id", <<app_id>>)
```

```
- bdpar.Options$set("youtube.app.password", <<app_password>>)
```

```
- bdpar.Options$set("cache.youtube.path", <<cache.path>>)
```

[cache]

```
- bdpar.Options$set("cache", <<status_cache>>)
```

```
- bdpar.Options$set("cache.folder", <<cache.path>>)
```

[parallel]

```
- bdpar.Options$set("numCores", <<num_cores>>)
```

[verbose]

```
- bdpar.Options$set("verbose", <<status_verbose>>)
```

Cache functionality

If the `bdpar` cache is configured through the "cache" and "cache.folder" options, the status of the instances will be stored after each pipe. This allows to avoid rejections of previously executed tasks, if the order and configuration of the pipe and pipeline is the same as what is stored in the cache.

If you want to remove the cache, the `cleanCache` method does this task.

Parallel functionality

The parallelization of instances is configured through the "numCores" option, which indicates the number of cores that will be used in the processing.

In the case of parallelisation, only the log by file will work to allow collecting all the information produced by the cores.

Log configuration

The bdpar log is configured through the `configureLog` function. This system manages both the place to display the messages and the priority level of each message showing only the messages with a higher level than indicated in the `threshold` variable.

If you want to deactivate the bdpar log, the `disableLog` method in `bdpar.Options` does this task.

Methods

- **get:** obtains a specific option.
 - *Usage:* `get(key)`
 - *Value:* the value of the specific option.
 - *Arguments:*
 - * **key:** (*character*) the name of the option to obtain.
- **add:** adds a option to the list of options
 - *Usage:* `add(key, value)`
 - *Arguments:*
 - * **key:** (*character*) the name of the new option.
 - * **propertyName:** (*Object*) the value of the new option.
- **set:** modifies the value of the one option.
 - *Usage:* `set(key, value)`
 - *Arguments:*
 - * **key:** (*character*) the name of the new option.
 - * **propertyName:** (*Object*) the value of the new option.
- **remove:** removes a specific option.
 - *Usage:* `remove(key)`
 - *Arguments:*
 - * **key:** (*character*) the name of the option to remove.
- **getAll:** gets the list of options.
 - *Usage:* `getAll()`
 - *Value:* Value of options.
- **reset:** resets the option list to the initial state.
 - *Usage:* `reset()`
- **isSpecificOption:** checks for the existence of an specific option.
 - *Usage:* `isSpecificProperty(key)`
 - *Value:* A boolean results according to the existence of the specific option in the list of options
 - *Arguments:*
 - * **key:** (*character*) the key of the option to check.
- **cleanCache:** Cleans the cache of executed pipelines. Deletes all files and directories that are in the path defined in "**cache.folder**" option.
 - *Usage:* `cleanCache()`

- **configureLog:** Configures the bdpar log. In the case of parallelisation, only the log by file will work.
 - *Usage:* `configureLog(console = TRUE, threshold = "INFO", file = NULL)`
 - *Arguments:*
 - * **console:** (*boolean*) Shows the log on console or not.
 - * **threshold:** (*character*) The logging threshold level. Messages with a lower priority level will be discarded.
 - * **file:** (*character*) The file to write messages to. If it is NULL, the log in file will not be enabled.
- **disableLog:** Deactivates the bdpar log.
 - *Usage:* `disableLog()`
- **getLogConfiguration:** Print the bdpar log configuration.
 - *Usage:* `getLogConfiguration()`

See Also

[AbbreviationPipe](#), [bdpar.log](#), [Connections](#), [ContractionPipe](#), [ExtractorEml](#), [ExtractorTwtid](#), [ExtractorYtbid](#), [GuessLanguagePipe](#), [Instance](#), [SlangPipe](#), [StopWordPipe](#), [TeeCSVPipe](#), [%>|%](#)

bdparData

Example of the content of the files to be preprocessed.

Description

A manually collected data set containing e-mails and SMS messages from the nutritional and health domain classified as spam and non-spam (with a ratio of 50%). In addition the dataset contains two variables: (i) path which indicates the location of the target file and, (ii) source which contains the raw text comprising each file.

Usage

```
data(bdparData)
```

Format

A data frame with 20 rows and 2 variables:

path File path.

source File content.

Connections

Class to manage the connections with Twitter and YouTube

Description

The tasks of the functions that the [Connections](#) class has are to establish the connections and control the number of requests that have been made with the APIs of Twitter and YouTube.

Details

The way to indicate the keys of YouTube and Twitter has to be through fields of *bdpar.Options* variable:

[twitter]

- `bdpar.Options$set("twitter.consumer.key", <<consumer_key>>)`
- `bdpar.Options$set("twitter.consumer.secret", <<consumer_secret>>)`
- `bdpar.Options$set("twitter.access.token", <<access_token>>)`
- `bdpar.Options$set("twitter.access.token.secret", <<access_token_secret>>)`

[youtube]

- `bdpar.Options$set("youtube.app.id", <<app_id>>)`
- `bdpar.Options$set("youtube.app.password", <<app_password>>)`

Note

Fields of unused connections will be automatically ignored by the platform.

Methods

Public methods:

- [Connections\\$new\(\)](#)
- [Connections\\$getTwitterToken\(\)](#)
- [Connections\\$startConnectionWithTwitter\(\)](#)
- [Connections\\$checkRequestToTwitter\(\)](#)
- [Connections\\$startConnectionWithYoutube\(\)](#)
- [Connections\\$addNumRequestToYoutube\(\)](#)
- [Connections\\$checkRequestToYoutube\(\)](#)
- [Connections\\$getNumRequestMaxToYoutube\(\)](#)
- [Connections\\$clone\(\)](#)

Method `new()`: Creates a [Connections](#) object.

Usage:

```
Connections$new()
```

Method `getTwitterToken()`: Gets the Twitter token ID.

Usage:

`Connections$getTwitterToken()`

Returns: Value of twitterToken.

Method `startConnectionWithTwitter()`: Responsible of establishing the connection to Twitter.

Usage:

`Connections$startConnectionWithTwitter()`

Method `checkRequestToTwitter()`: Function in charge of handling the connection with Twitter.

Usage:

`Connections$checkRequestToTwitter()`

Method `startConnectionWithYoutube()`: Function able to establish the connection with YouTube.

Usage:

`Connections$startConnectionWithYoutube()`

Method `addNumRequestToYoutube()`: Function that increases in one the number of request to YouTube.

Usage:

`Connections$addNumRequestToYoutube()`

Method `checkRequestToYoutube()`: Handles the connection with YouTube.

Usage:

`Connections$checkRequestToYoutube()`

Method `getNumRequestMaxToYoutube()`: Gets the number of maximum requests allowed by YouTube API.

Usage:

`Connections$getNumRequestMaxToYoutube()`

Returns: Value of number maximum of request to YouTube.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

`Connections$clone(deep = FALSE)`

Arguments:

`deep` Whether to make a deep clone.

See Also

[bdpar.Options](#), [ExtractorTwtid](#), [ExtractorYtbid](#)

ContractionPipe	<i>Class to find and/or replace the contractions on the data field of a Instance</i>
-----------------	--

Description

[ContractionPipe](#) class is responsible for detecting the existing contractions in the **data** field of each [Instance](#). Identified contractions are stored inside the **contraction** field of [Instance](#) class. Moreover if needed, is able to perform inline contractions replacement.

Details

[ContractionPipe](#) class requires the resource files (in json format) containing the correspondence between contractions and meaning. To this end, the language of the text indicated in the *propertyLanguageName* should be contained in the resource file name (ie. *contr.xxx.json* where *xxx* is the value defined in the *propertyLanguageName*). The location of the resources should be defined in the "**resources.contractions.path**" field of *bdpar.Options* variable.

Note

[ContractionPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

[bdpar::GenericPipe](#) -> [ContractionPipe](#)

Methods

Public methods:

- [ContractionPipe\\$new\(\)](#)
- [ContractionPipe\\$pipe\(\)](#)
- [ContractionPipe\\$findContraction\(\)](#)
- [ContractionPipe\\$replaceContraction\(\)](#)
- [ContractionPipe\\$getPropertyLanguageName\(\)](#)
- [ContractionPipe\\$getResourcesContractionsPath\(\)](#)
- [ContractionPipe\\$setResourcesContractionsPath\(\)](#)
- [ContractionPipe\\$clone\(\)](#)

Method [new\(\)](#): Creates a [ContractionPipe](#) object.

Usage:

```

ContractionPipe$new(
  propertyName = "contractions",
  propertyLanguageName = "language",
  alwaysBeforeDeps = list("GuessLanguagePipe"),
  notAfterDeps = list(),
  replaceContractions = TRUE,
  resourcesContractionsPath = NULL
)

```

Arguments:

propertyName A [character](#) value. Name of the property associated with the [GenericPipe](#).

propertyLanguageName A [character](#) value. Name of the language property.

alwaysBeforeDeps A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

notAfterDeps A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

replaceContractions A [logical](#) value. Indicates if the contractions are replaced or not.

resourcesContractionsPath A [character](#) value. Path of resource files (in json format) containing the correspondence between contractions and meaning.

Method pipe(): Preprocesses the [Instance](#) to obtain/replace the contractions. The contractions found in the data are added to the list of properties of the [Instance](#).

Usage:

```
ContractionPipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method findContraction(): Checks if the contraction is in the data.

Usage:

```
ContractionPipe$findContraction(data, contraction)
```

Arguments:

data A [character](#) value. The text where contraction will be searched.

contraction A [character](#) value. Indicates the contraction to find.

Returns: A [logical](#) value depending on whether the contraction is in the data.

Method replaceContraction(): Replaces the *contraction* in the data for the *extendedContraction*.

Usage:

```
ContractionPipe$replaceContraction(contraction, extendedContraction, data)
```

Arguments:

contraction A [character](#) value. Indicates the contraction to replace.

extendedContraction A [character](#) value. Indicates the string to replace for the contractions found.

data A [character](#) value. The text where contraction will be replaced.

Returns: The data with the contractions replaced.

Method `getPropertyLanguageName():` Gets the name of property language.

Usage:

`ContractionPipe$getPropertyLanguageName()`

Returns: Value of name of property language.

Method `getResourcesContractionsPath():` Gets the path of contractions resources.

Usage:

`ContractionPipe$getResourcesContractionsPath()`

Returns: Value of path of contractions resources.

Method `setResourcesContractionsPath():` Sets the path of contractions resources.

Usage:

`ContractionPipe$setResourcesContractionsPath(path)`

Arguments:

path A [character](#) value. The new value of the path of contractions resources.

Method `clone():` The objects of this class are cloneable with this method.

Usage:

`ContractionPipe$clone(deep = FALSE)`

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.Options](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

DefaultPipeline

Class implementing a default pipelining process.

Description

This [DefaultPipeline](#) class inherits from the [GenericPipeline](#) class. Includes the **execute** method which provides a default pipelining implementation.

Details

The default flow is:

```
instance %>|%  
  
  TargetAssigningPipe$new() %>|%  
  
  StoreFileExtPipe$new() %>|%  
  
  GuessDatePipe$new() %>|%  
  
  File2Pipe$new() %>|%  
  
  MeasureLengthPipe$new(propertyName = "length_before_cleaning_text") %>|%  
  
  FindUserNamePipe$new() %>|%  
  
  FindHashtagPipe$new() %>|%  
  
  FindUrlPipe$new() %>|%  
  
  FindEmoticonPipe$new() %>|%  
  
  FindEmojiPipe$new() %>|%  
  
  GuessLanguagePipe$new() %>|%  
  
  ContractionPipe$new() %>|%  
  
  AbbreviationPipe$new() %>|%  
  
  SlangPipe$new() %>|%  
  
  ToLowerCasePipe$new() %>|%  
  
  InterjectionPipe$new() %>|%  
  
  StopWordPipe$new() %>|%  
  
  MeasureLengthPipe$new(propertyName = "length_after_cleaning_text") %>|%  
  
  TeeCSVPipe$new()
```

Inherit

This class inherits from [GenericPipeline](#) and implements the execute abstract function.

Super class

`bdpar::GenericPipeline` -> `DefaultPipeline`

Methods**Public methods:**

- `DefaultPipeline$new()`
- `DefaultPipeline$execute()`
- `DefaultPipeline$get()`
- `DefaultPipeline$print()`
- `DefaultPipeline$toString()`
- `DefaultPipeline$clone()`

Method `new()`: Creates a `DefaultPipeline` object.

Usage:

`DefaultPipeline$new()`

Method `execute()`: Function where is implemented the flow of the `GenericPipes`.

Usage:

`DefaultPipeline$execute(instance)`

Arguments:

`instance` A `Instance` value. The `Instance` that is going to be processed.

Returns: The preprocessed `Instance`.

Method `get()`: Gets a list with containing the set of `link{GenericPipe}s` of the pipeline,

Usage:

`DefaultPipeline$get()`

Returns: The set of `GenericPipes` containing the pipeline.

Method `print()`: Prints pipeline representation. (Override print function)

Usage:

`DefaultPipeline$print(...)`

Arguments:

... Further arguments passed to or from other methods.

Method `toString()`: Returns a `character` representing the pipeline

Usage:

`DefaultPipeline$toString()`

Returns: `DefaultPipeline character` representation

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

`DefaultPipeline$clone(deep = FALSE)`

Arguments:

`deep` Whether to make a deep clone.

See Also

[bdpar.log](#), [Instance](#), [DynamicPipeline](#), [GenericPipeline](#), [GenericPipe](#), [%>|%](#)

DynamicPipeline	<i>Class implementing a dynamic pipelining process</i>
-----------------	--

Description

This [DynamicPipeline](#) class inherits from the [GenericPipeline](#) class. Includes the **execute** method which provides a dynamic pipelining implementation. ’

Inherit

This class inherits from [GenericPipeline](#) and implements the execute abstract function.

Super class

[bdpar::GenericPipeline](#) -> DynamicPipeline

Methods**Public methods:**

- [DynamicPipeline\\$new\(\)](#)
- [DynamicPipeline\\$add\(\)](#)
- [DynamicPipeline\\$removeByPos\(\)](#)
- [DynamicPipeline\\$removeByPipe\(\)](#)
- [DynamicPipeline\\$removeAll\(\)](#)
- [DynamicPipeline\\$execute\(\)](#)
- [DynamicPipeline\\$get\(\)](#)
- [DynamicPipeline\\$print\(\)](#)
- [DynamicPipeline\\$string\(\)](#)
- [DynamicPipeline\\$clone\(\)](#)

Method [new\(\)](#): Creates a [DynamicPipeline](#) object.

Usage:

```
DynamicPipeline$new(pipeline = NULL)
```

Arguments:

pipeline A list of [GenericPipe](#) objects. Initializes the flow of [GenericPipe](#).

Method [add\(\)](#): Adds a [GenericPipe](#) or a [GenericPipe](#) list to the pipeline.

Usage:

```
DynamicPipeline$add(pipe, pos = NULL)
```

Arguments:

pipe A [GenericPipe](#) object or a [list](#) of [GenericPipe](#) objects.
pos A (*numeric*) value. The value of the position to add. If it is NULL, [GenericPipe](#) is appended to the pipeline.

Method `removeByPos()`: Removes [GenericPipes](#) by the position on the pipeline.

Usage:

```
DynamicPipeline$removeByPos(pos)
```

Arguments:

pos A (*numeric*) value. The value of the position to remove.

Method `removeByPipe()`: Removes [GenericPipes](#) by its name on the pipeline.

Usage:

```
DynamicPipeline$removeByPipe(pipe.name)
```

Arguments:

pipe.name A (*character*) value. The [GenericPipes](#) name to remove.

Method `removeAll()`: Removes all [GenericPipes](#) included on pipeline.

Usage:

```
DynamicPipeline$removeAll()
```

Method `execute()`: Function where is implemented the flow of the [GenericPipes](#).

Usage:

```
DynamicPipeline$execute(instance)
```

Arguments:

instance A (*Instance*) value. The [Instance](#) that is going to be processed.

Method `get()`: Gets a list with containing the set of [GenericPipes](#) of the pipeline.

Usage:

```
DynamicPipeline$get()
```

Returns: The set of [GenericPipes](#) containing the pipeline.

Method `print()`: Prints pipeline representation. (Override print function)

Usage:

```
DynamicPipeline$print(...)
```

Arguments:

... Further arguments passed to or from other methods.

Method `toString()`: Returns a [character](#) representing the pipeline

Usage:

```
DynamicPipeline$toString()
```

Returns: [DynamicPipeline character](#) representation

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
DynamicPipeline$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[bdpar.log](#), [Instance](#), [DefaultPipeline](#), [GenericPipeline](#), [GenericPipe](#), [%>|%](#)

emojisData

Emojis codes and descriptions data.

Description

This data comes from "Unicode.org", <<http://unicode.org/emoji/charts/full-emoji-list.html>>. The data are codes and descriptions of Emojis.

Usage

```
data(emojisData)
```

Format

A data frame with 2623 rows and 2 variables:

code Emoji code

description Emoji description.

ExtractorEml

Class to handle email files with eml extension

Description

This class inherits from the [Instance](#) class and implements the functions of extracting the text and the date from an eml type file.

Details

The way to indicate which part to choose in the email, when is a multipart email, is through the "**extractorEML.mpaPartSelected**" field of [bdpar.Options](#) variable.

Note

To be able to use this class it is necessary to have Python installed.

Inherit

This class inherits from [Instance](#) and implements the `obtainSource` and `obtainDate` abstracts functions.

Super class

`bdpar::Instance` -> ExtractorEml

Methods**Public methods:**

- `ExtractorEml$new()`
- `ExtractorEml$obtainDate()`
- `ExtractorEml$obtainSource()`
- `ExtractorEml$getPartSelectedOnMPAlternative()`
- `ExtractorEml$setPartSelectedOnMPAlternative()`
- `ExtractorEml$toString()`
- `ExtractorEml$clone()`

Method `new()`: Creates a `ExtractorEml` object.

Usage:

```
ExtractorEml$new(path, PartSelectedOnMPAlternative = NULL)
```

Arguments:

`path` A `character` value. Path of the eml file.

`PartSelectedOnMPAlternative` A `character` value. Configuration to read the eml files. If it is `NULL`, checks if is defined in the "**extractorEML.mpaPartSelected**" field of `bdpar:Options` variable.

Method `obtainDate()`: Obtains the date of the eml file. Calls the function `read_emails` and obtains the date of the file indicated in the path and then transforms it into the generic date format, that is "%a %b %d %H:%M:%S %Z %Y" (Example: "Thu May 02 06:52:36 UTC 2013").

Usage:

```
ExtractorEml$obtainDate()
```

Method `obtainSource()`: Obtains the source of the eml file. Calls the function `read_emails` and obtains the source of the file indicated in the path. In addition, it initializes the data with the initial source.

Usage:

```
ExtractorEml$obtainSource()
```

Method `getPartSelectedOnMPAlternative()`: Gets of `PartSelectedOnMPAlternative` variable.

Usage:

```
ExtractorEml$getPartSelectedOnMPAlternative()
```

Returns: Value of `PartSelectedOnMPAlternative` variable.

Method `setPartSelectedOnMPAlternative()`: Gets of `PartSelectedOnMPAlternative` variable.

Usage:

ExtractorEml\$setPartSelectedOnMPAlternative(PartSelectedOnMPAlternative)

Arguments:

PartSelectedOnMPAlternative A [character](#) value. The new value of *PartSelectedOnMPAlternative* variable.

Method toString(): Returns a [character](#) representing the instance

Usage:

ExtractorEml\$string()

Returns: [Instance character](#) representation

Method clone(): The objects of this class are cloneable with this method.

Usage:

ExtractorEml\$clone(deep = FALSE)

Arguments:

deep Whether to make a deep clone.

See Also

[bdpar.Options](#), [ExtractorSms](#), [ExtractorTwtid](#), [ExtractorYtbid](#), [Instance](#)

ExtractorFactory

Class to handle the creation of Instance types

Description

[ExtractorFactory](#) class builds the appropriate [Instance](#) object according to the file extension. In the case of not finding the registered extension, the default extractor will be used if it has been previously configured.

Methods

Public methods:

- [ExtractorFactory\\$new\(\)](#)
- [ExtractorFactory\\$registerExtractor\(\)](#)
- [ExtractorFactory\\$setExtractor\(\)](#)
- [ExtractorFactory\\$setDefaultExtractor\(\)](#)
- [ExtractorFactory\\$removeExtractor\(\)](#)
- [ExtractorFactory\\$getAllExtractors\(\)](#)
- [ExtractorFactory\\$getDefaultExtractor\(\)](#)
- [ExtractorFactory\\$isSpecificExtractor\(\)](#)
- [ExtractorFactory\\$createInstance\(\)](#)
- [ExtractorFactory\\$reset\(\)](#)
- [ExtractorFactory\\$print\(\)](#)

- [ExtractorFactory\\$clone\(\)](#)

Method `new()`: Creates a [ExtractorFactory](#) object.

Usage:

```
ExtractorFactory$new()
```

Method `registerExtractor()`: Adds an extractor to the list of extensions. If the extension is an empty string (""), the indicated extractor will be the default when there is no extractor associated with an extension.

Usage:

```
ExtractorFactory$registerExtractor(extensions, extractor)
```

Arguments:

`extensions` A [character](#) array. The names of the extension option.

`extractor` A `Object` value. The extractor of the new extension.

Method `setExtractor()`: Modifies the extractor of the one extension.

Usage:

```
ExtractorFactory$setExtractor(extension, extractor)
```

Arguments:

`extension` A [character](#) value. The name of the extension option.

`extractor` A `Object` value. The value of the new extractor.

Method `setDefaultExtractor()`: Modifies the extractor of the one extension. Assign `NULL` value to disable the default extractor.

Usage:

```
ExtractorFactory$setDefaultExtractor(defaultExtractor)
```

Arguments:

`defaultExtractor` A `Object` value. The value of the default extractor.

Method `removeExtractor()`: Removes a specific extractor through the extension.

Usage:

```
ExtractorFactory$removeExtractor(extension)
```

Arguments:

`extension` A [character](#) value. The name of the extension to remove.

Method `getAllExtractors()`: Gets the list of extractors.

Usage:

```
ExtractorFactory$getAllExtractors()
```

Returns: Value of extractors.

Method `getDefaultExtractor()`: Gets the default extractor.

Usage:

```
ExtractorFactory$getDefaultExtractor()
```

Returns: Value of default extractor.

Method `isSpecificExtractor()`: Checks if exists an extractor for a specific extension.

Usage:

```
ExtractorFactory$isSpecificExtractor(extension)
```

Arguments:

extension A [character](#) value. The name of the extension to check

Returns: Value of extractors.

Method `createInstance()`: Builds the [Instance](#) object according to the file extension. In the case of not finding the registered extension, the default extractor will be used if it has been previously configured.

Usage:

```
ExtractorFactory$createInstance(path)
```

Arguments:

path A [character](#) value. Path of the file to create an [Instance](#).

Returns: The [Instance](#) corresponding object according to the file extension.

Method `reset()`: Resets list of extractor to default state.

Usage:

```
ExtractorFactory$reset()
```

Method `print()`: Prints pipeline representation. (Override print function)

Usage:

```
ExtractorFactory$print(...)
```

Arguments:

... Further arguments passed to or from other methods.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
ExtractorFactory$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[ExtractorEml](#), [ExtractorSms](#), [ExtractorTwtid](#), [ExtractorYtbid](#), [Instance](#)

ExtractorSms

Class to handle SMS files with tsms extension

Description

This class that inherits from the [Instance](#) class and implements the functions of extracting the text and the date of an tsms type file.

Details

Due to the fact that the creation date of the message can not be extracted from the text of an SMS, the date will be initialized to empty.

Inherit

This class inherits from [Instance](#) and implements the `obtainSource` and `obtainDate` abstracts functions.

Super class

`bdpar : Instance -> ExtractorSms`

Methods

Public methods:

- [ExtractorSms\\$new\(\)](#)
- [ExtractorSms\\$obtainDate\(\)](#)
- [ExtractorSms\\$obtainSource\(\)](#)
- [ExtractorSms\\$string\(\)](#)
- [ExtractorSms\\$clone\(\)](#)

Method `new()`: Creates a [ExtractorSms](#) object.

Usage:

```
ExtractorSms$new(path)
```

Arguments:

path A [character](#) value. Path of the tsms file.

Method `obtainDate()`: Obtains the date of the SMS file.

Usage:

```
ExtractorSms$obtainDate()
```

Method `obtainSource()`: Obtains the source of the SMS file. Reads the file indicated in the path. In addition, it initializes the data field with the initial source.

Usage:

```
ExtractorSms$obtainSource()
```

Method toString(): Returns a [character](#) representing the instance

Usage:

```
ExtractorSms$toString()
```

Returns: [Instance character](#) representation

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
ExtractorSms$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[ExtractorEml](#), [ExtractorTwtid](#), [ExtractorYtbid](#), [Instance](#)

ExtractorTwtid

Class to handle tweets files with twtid extension

Description

This class inherits from the [Instance](#) class and implements the functions of extracting the text and the date of an twtid type file.

Details

Twitter connection is handled through the [Connections](#) class which loads the Twitter API credentials from the [bdpar.Options](#) object. Additionally, to increase the processing speed, each twitter query is stored in a cache to avoid the execution of duplicated queries. To enable this option, cache location should be in the "[cache.twitter.path](#)" field of [bdpar.Options](#) variable. This variable has to be the path to store the tweets and it is necessary that it has two folder named: "_spam_" and "_ham_"

Inherit

This class inherits from [Instance](#) and implements the obtainSource and obtainDate abstracts functions.

Super class

[bdpar::Instance](#) -> ExtractorTwtid

Methods

Public methods:

- [ExtractorTwtid\\$new\(\)](#)
- [ExtractorTwtid\\$obtainId\(\)](#)
- [ExtractorTwtid\\$getId\(\)](#)
- [ExtractorTwtid\\$obtainDate\(\)](#)
- [ExtractorTwtid\\$obtainSource\(\)](#)
- [ExtractorTwtid\\$toString\(\)](#)
- [ExtractorTwtid\\$clone\(\)](#)

Method [new\(\)](#): Creates a [ExtractorTwtid](#) object.

Usage:

```
ExtractorTwtid$new(path, cachePath = NULL)
```

Arguments:

path A [character](#) value. Path of the twtid file.

cachePath A [character](#) value. Path of the cache location. If it is NULL, checks if is defined in the "**cache.twitter.path**" field of [bdpar.Options](#) variable.

Method [obtainId\(\)](#): Obtains the ID of an specific tweet. Reads the ID of the file indicated in the variable path.

Usage:

```
ExtractorTwtid$obtainId()
```

Method [getId\(\)](#): Gets the ID of an specific tweet.

Usage:

```
ExtractorTwtid$getId()
```

Returns: Value of tweet ID.

Method [obtainDate\(\)](#): Obtains the date from a specific tweet ID. If the tweet has been previously cached the tweet date is loaded from cache path. Otherwise, the request is performed using Twitter API and the date is automatically formatted to "

Usage:

```
ExtractorTwtid$obtainDate()
```

Method [obtainSource\(\)](#): Obtains the source from a specific tweet ID. If the tweet has previously been cached the source is loaded from cache path. Otherwise, the request is performed using on Twitter API.

Usage:

```
ExtractorTwtid$obtainSource()
```

Method [toString\(\)](#): Returns a [character](#) representing the instance

Usage:

```
ExtractorTwtid$toString()
```

Returns: [Instance character](#) representation

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
ExtractorTwtid$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[bdpar.Options](#), [Connections](#), [ExtractorEml](#), [ExtractorSms](#), [ExtractorYtbid](#), [Instance](#),

ExtractorYtbid

Class to handle comments of YouTube files with ytbid extension

Description

This class inherits from the [Instance](#) class and implements the functions of extracting the text and the date of an ytbid type file.

Details

YouTube connection is handled through the [Connections](#) class which loads the YouTube API credentials from the *bdpar.Options* object. Additionally, to increase the processing speed, each Youtube query is stored in a cache to avoid the execution of duplicated queries. To enable this option, cache location should be in the "**cache.youtube.path**" field of *bdpar.Options* variable. This variable has to be the path to store the comments and it is necessary that it has two folder named: "_spam_" and "_ham_"

Inherit

This class inherits from [Instance](#) and implements the obtainSource and obtainDate abstracts functions.

Super class

[bdpar::Instance](#) -> ExtractorYtbid

Methods

Public methods:

- [ExtractorYtbid\\$new\(\)](#)
- [ExtractorYtbid\\$obtainId\(\)](#)
- [ExtractorYtbid\\$getId\(\)](#)
- [ExtractorYtbid\\$obtainDate\(\)](#)
- [ExtractorYtbid\\$obtainSource\(\)](#)
- [ExtractorYtbid\\$toString\(\)](#)
- [ExtractorYtbid\\$clone\(\)](#)

Method `new()`: Creates a [ExtractorYtbid](#) object.

Usage:

```
ExtractorYtbid$new(path, cachePath = NULL)
```

Arguments:

`path` A [character](#) value. Path of the ytbid file.

`cachePath` A [character](#) value. Path of the cache location. If it is NULL, checks if is defined in the "[cache.youtube.path](#)" field of [bdpar.Options](#) variable.

Method `obtainId()`: Obtains the ID of the specific Youtube's comment. Reads the ID of the file indicated in the variable path.

Usage:

```
ExtractorYtbid$obtainId()
```

Method `getId()`: Gets the ID of an specific Youtube's comment.

Usage:

```
ExtractorYtbid$getId()
```

Returns: Value of Youtube's comment ID.

Method `obtainDate()`: Obtains the date from a specific comment ID. If the comment has been previously cached the comment date is loaded from cache path. Otherwise, the request is performed using YouTube API and the date is then formatted to the established standard.

Usage:

```
ExtractorYtbid$obtainDate()
```

Method `obtainSource()`: Obtains the source from a specific comment ID. If the comment has been previously cached the source is loaded from cache path. Otherwise, the request is performed using on YouTube API.

Usage:

```
ExtractorYtbid$obtainSource()
```

Method `toString()`: Returns a [character](#) representing the instance

Usage:

```
ExtractorYtbid$toString()
```

Returns: [Instance character](#) representation

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
ExtractorYtbid$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[bdpar.Options](#), [Connections](#), [ExtractorEm1](#), [ExtractorSms](#), [ExtractorTwtid](#), [Instance](#)

File2Pipe

Class to obtain the source field of an Instance

Description

Obtains the **source** using the method which implements the subclass of [Instance](#).

Note

[File2Pipe](#) will automatically invalidate the [Instance](#) whenever the obtained source is empty or not in UTF-8 format.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

[bdpar::GenericPipe](#) -> File2Pipe

Methods

Public methods:

- [File2Pipe\\$new\(\)](#)
- [File2Pipe\\$pipe\(\)](#)
- [File2Pipe\\$clone\(\)](#)

Method [new\(\)](#): Creates a [File2Pipe](#) object.

Usage:

```
File2Pipe$new(
  propertyName = "source",
  alwaysBeforeDeps = list("TargetAssigningPipe"),
  notAfterDeps = list()
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

Method [pipe\(\)](#): Preprocesses the [Instance](#) to obtain the source.

Usage:

```
File2Pipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
File2Pipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

FindEmojiPipe

Class to find and/or replace the emoji on the data field of an Instance

Description

This class is responsible of detecting the existing emojis in the **data** field of each [Instance](#). Identified emojis are stored inside the **emoji** field of [Instance](#) class. Moreover if required, is able to perform inline emoji replacement.

Details

[FindEmojiPipe](#) use the emoji list provided by `data(emojisData)`.

Note

[FindEmojiPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe -> FindEmojiPipe`

Methods

Public methods:

- [FindEmojiPipe\\$new\(\)](#)
- [FindEmojiPipe\\$pipe\(\)](#)
- [FindEmojiPipe\\$findEmoji\(\)](#)
- [FindEmojiPipe\\$replaceEmoji\(\)](#)
- [FindEmojiPipe\\$clone\(\)](#)

Method `new()`: Creates a [FindEmojiPipe](#) object.

Usage:

```
FindEmojiPipe$new(
  propertyName = "Emojis",
  alwaysBeforeDeps = list(),
  notAfterDeps = list(),
  replaceEmojis = TRUE
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

`replaceEmojis` A [logical](#) value. Indicates if the emojis are replaced.

`propertyLanguageName` A [character](#) value. Name of the language property.

Method `pipe()`: Preprocesses the [Instance](#) to obtain/replace the emojis. The emojis found in the data are added to the list of properties of the [Instance](#).

Usage:

```
FindEmojiPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `findEmoji()`: Checks if the emoji is in the data.

Usage:

```
FindEmojiPipe$findEmoji(data, emoji)
```

Arguments:

`data` A [character](#) value. The text where emoji will be searched.

`emoji` A [character](#) value. Indicates the emoji to find.

Returns: A [logical](#) value depending on whether the emoji is in the data.

Method `replaceEmoji()`: Replaces the *emoji* in the data for the *extendedEmoji*.

Usage:

```
FindEmojiPipe$replaceEmoji(emoji, extendedEmoji, data)
```

Arguments:

emoji A [character](#) value. Indicates the emoji to replace.
 extendedEmoji A [character](#) value. Indicates the string to replace for the emojis found.
 data A [character](#) value. The text where emoji will be replaced.

Returns: The data with the emojis replaced.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
FindEmojiPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

FindEmoticonPipe	<i>Class to find and/or remove the emoticons on the data field of an Instance</i>
------------------	---

Description

This class is responsible of detecting the existing emoticons in the **data** field of each [Instance](#). Identified emoticons are stored inside the **emoticon** field of [Instance](#) class. Moreover if required, is able to perform inline emoticon removal.

Details

The regular expression indicated in the emoticonPattern variable is used to identify emoticons.

Note

[FindEmoticonPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe -> FindEmoticonPipe`

Public fields

emoticonPattern A [character](#) value. The regular expression to detect emoticons.

Methods**Public methods:**

- [FindEmoticonPipe\\$new\(\)](#)
- [FindEmoticonPipe\\$pipe\(\)](#)
- [FindEmoticonPipe\\$findEmoticon\(\)](#)
- [FindEmoticonPipe\\$removeEmoticon\(\)](#)
- [FindEmoticonPipe\\$clone\(\)](#)

Method `new()`: Creates a [FindEmoticonPipe](#) object.

Usage:

```
FindEmoticonPipe$new(
  propertyName = "emoticon",
  alwaysBeforeDeps = list(),
  notAfterDeps = list("FindHashtagPipe"),
  removeEmoticons = TRUE
)
```

Arguments:

propertyName A [character](#) value. Name of the property associated with the [GenericPipe](#).

alwaysBeforeDeps A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

notAfterDeps A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

removeEmoticons A [logical](#) value. Indicates if the emoticons are removed.

propertyLanguageName A [character](#) value. Name of the language property.

Method `pipe()`: Preprocesses the [Instance](#) to obtain/remove the emoticons. The emoticons found in the data are added to the list of properties of the [Instance](#).

Usage:

```
FindEmoticonPipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `findEmoticon()`: Finds the *emoticons* in the data.

Usage:

```
FindEmoticonPipe$findEmoticon(data)
```

Arguments:

data A [character](#) value. The text to search the emoticons.

Returns: The [list](#) with emoticons found.

Method `removeEmoticon()`: Removes the *emoticons* in the data.

Usage:

```
FindEmoticonPipe$removeEmoticon(data)
```

Arguments:

data A [character](#) value. The text where emoticons will be removed.

Returns: The data with the emoticons removed.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
FindEmoticonPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

FindHashtagPipe	<i>Class to find and/or remove the hashtags on the data field of an Instance</i>
-----------------	--

Description

This class is responsible of detecting the existing hashtags in the **data** field of each [Instance](#). Identified hashtags are stored inside the **hashtag** field of [Instance](#) class. Moreover if required, is able to perform inline hashtag removal.

Details

The regular expression indicated in the `hashtagPattern` variable is used to identify hashtags.

Note

[FindHashtagPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe` -> `FindHashtagPipe`

Public fields

hashtagPattern A [character](#) value. The regular expression to detect hashtags.

Methods**Public methods:**

- [FindHashtagPipe\\$new\(\)](#)
- [FindHashtagPipe\\$pipe\(\)](#)
- [FindHashtagPipe\\$findHashtag\(\)](#)
- [FindHashtagPipe\\$removeHashtag\(\)](#)
- [FindHashtagPipe\\$clone\(\)](#)

Method [new\(\)](#): Creates a [FindHashtagPipe](#) object.

Usage:

```
FindHashtagPipe$new(
  propertyName = "hashtag",
  alwaysBeforeDeps = list(),
  notAfterDeps = list(),
  removeHashtags = TRUE
)
```

Arguments:

propertyName A [character](#) value. Name of the property associated with the [GenericPipe](#).

alwaysBeforeDeps A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

notAfterDeps A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

removeHashtags A [logical](#) value. Indicates if the hashtags are removed.

propertyLanguageName A [character](#) value. Name of the language property.

Method [pipe\(\)](#): Preprocesses the [Instance](#) to obtain/remove the hashtags. The hashtags found in the data are added to the list of properties of the [Instance](#).

Usage:

```
FindHashtagPipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method [findHashtag\(\)](#): Finds the *hashtags* in the data.

Usage:

```
FindHashtagPipe$findHashtag(data)
```

Arguments:

data A [character](#) value. The text to search the hashtags.

Returns: The [list](#) with hashtags found.

Method `removeHashtag()`: Removes the *hashtags* in the data.

Usage:

```
FindHashtagPipe$removeHashtag(data)
```

Arguments:

`data` A [character](#) value. The text where hashtags will be removed.

Returns: The data with the hashtags removed.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
FindHashtagPipe$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

FindUrlPipe

Class to find and/or remove the URLs on the data field of an Instance

Description

This class is responsible of detecting the existing URLs in the **data** field of each [Instance](#). Identified URLs are stored inside the **URLs** field of [Instance](#) class. Moreover if required, is able to perform inline URLs removal.

Details

The regular expressions indicated in the `URLPatterns` variable are used to identify URLs.

Note

[FindUrlPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe -> FindUrlPipe`

Public fields

URLPattern A [character](#) value. The regular expression to detect URLs.

EmailPattern A [character](#) value. The regular expression to detect emails.

Methods**Public methods:**

- [FindUriPipe\\$new\(\)](#)
- [FindUriPipe\\$pipe\(\)](#)
- [FindUriPipe\\$findUrl\(\)](#)
- [FindUriPipe\\$removeUrl\(\)](#)
- [FindUriPipe\\$putNamesURLPattern\(\)](#)
- [FindUriPipe\\$getURLPatterns\(\)](#)
- [FindUriPipe\\$setURLPatterns\(\)](#)
- [FindUriPipe\\$getNamesURLPatterns\(\)](#)
- [FindUriPipe\\$setNamesURLPatterns\(\)](#)
- [FindUriPipe\\$clone\(\)](#)

Method `new()`: Creates a [FindUriPipe](#) object.

Usage:

```
FindUriPipe$new(
  propertyName = "URLs",
  alwaysBeforeDeps = list(),
  notAfterDeps = list("FindUriPipe"),
  removeUrls = TRUE,
  URLPatterns = list(self$URLPattern, self$EmailPattern),
  namesURLPatterns = list("UrlPattern", "EmailPattern")
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

`removeUrls` A [logical](#) value. Indicates if the URLs are removed.

`URLPatterns` A [list](#) value. The regex to find URLs.

`namesURLPatterns` A [list](#) value. The names of regex.

`propertyLanguageName` A [character](#) value. Name of the language property.

Method `pipe()`: Preprocesses the [Instance](#) to obtain/remove the URLs. The URLs found in the data are added to the list of properties of the [Instance](#).

Usage:

```
FindUriPipe$pipe(instance)
```

Arguments:

instance A **Instance** value. The **Instance** to preprocess.

Returns: The **Instance** with the modifications that have occurred in the pipe.

Method findUrl(): Finds the *URLs* in the data.

Usage:

```
FindUrlPipe$findUrl(pattern, data)
```

Arguments:

pattern A **character** value. The regex to find URLs.

data A **character** value. The text to find the URLs.

Returns: The **list** with URLs found.

Method removeUrl(): Removes *the URL* in the data.

Usage:

```
FindUrlPipe$removeUrl(pattern, data)
```

Arguments:

pattern A **character** value. The regex to find URLs.

data A **character** value. The text to remove the URLs.

Returns: The data with URLs removed.

Method putNamesURLPattern(): Sets the names to *URL patterns* result.

Usage:

```
FindUrlPipe$putNamesURLPattern(resultOfURLPatterns)
```

Arguments:

resultOfURLPatterns A **list** value. The list with URLs found.

Returns: The URLs found with the names of URL pattern.

Method getURLPatterns(): Gets *the URL patterns*.

Usage:

```
FindUrlPipe$getURLPatterns()
```

Returns: Value of *URL patterns*.

Method setURLPatterns(): Sets the *URL patterns*.

Usage:

```
FindUrlPipe$setURLPatterns(URLPatterns)
```

Arguments:

URLPatterns A **list** value. The new value of the URL patterns.

Method getNamesURLPatterns(): Gets the *names of URLs*.

Usage:

```
FindUrlPipe$getNamesURLPatterns()
```

Returns: Value of names of URLs.

Method `setNamesURLPatterns()`: Sets the *names of URLs*.

Usage:

```
FindUrlPipe$setNamesURLPatterns(namesURLPatterns)
```

Arguments:

`namesURLPatterns` A [list](#) value. The new value of the names of URLs.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
FindUrlPipe$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

FindUserNamePipe

Class to find and/or remove the users on the data field of an Instance

Description

This class is responsible of detecting the existing use names in the **data** field of each [Instance](#). Identified user names are stored inside the **userName** field of [Instance](#) class. Moreover if required, is able to perform inline user name removal.

Details

The regular expressions indicated in the `userPattern` variable are used to identify user names.

Note

[FindUserNamePipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

```
bdpar::GenericPipe -> FindUserNamePipe
```

Public fields

`userPattern` A [character](#) value. The regular expression to detect name users.

Methods

Public methods:

- [FindUserNamePipe\\$new\(\)](#)
- [FindUserNamePipe\\$pipe\(\)](#)
- [FindUserNamePipe\\$findUserName\(\)](#)
- [FindUserNamePipe\\$removeUserName\(\)](#)
- [FindUserNamePipe\\$clone\(\)](#)

Method [new\(\)](#): Creates a [FindEmoticonPipe](#) object.

Usage:

```
FindUserNamePipe$new(  
  propertyName = "userName",  
  alwaysBeforeDeps = list(),  
  notAfterDeps = list(),  
  removeUser = TRUE  
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).
`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).
`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).
`removeUser` A [logical](#) value. Indicates if the name users are removed.
`propertyLanguageName` A [character](#) value. Name of the language property.

Method [pipe\(\)](#): Preprocesses the [Instance](#) to obtain/remove the name users. The emoticons found in the data are added to the list of properties of the [Instance](#).

Usage:

```
FindUserNamePipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method [findUserName\(\)](#): Finds the *name users* in the data.

Usage:

```
FindUserNamePipe$findUserName(data)
```

Arguments:

`data` A [character](#) value. The text to search the name users.

Returns: The [list](#) with name users found.

Method [removeUserName\(\)](#): Removes the *name users* in the data.

Usage:

```
FindUserNamePipe$removeUserName(data)
```

Arguments:

data A [character](#) value. The text where name users will be removed.

Returns: The data with the name users removed.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
FindUserNamePipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

GenericPipe

Abstract super class that handles the management of the Pipes

Description

Provides the required methods to successfully handle each [GenericPipe](#) class.

Methods**Public methods:**

- [GenericPipe\\$new\(\)](#)
- [GenericPipe\\$pipe\(\)](#)
- [GenericPipe\\$getPropertyName\(\)](#)
- [GenericPipe\\$getAlwaysBeforeDeps\(\)](#)
- [GenericPipe\\$getNotAfterDeps\(\)](#)
- [GenericPipe\\$setPropertyName\(\)](#)
- [GenericPipe\\$setAlwaysBeforeDeps\(\)](#)
- [GenericPipe\\$setNotAfterDeps\(\)](#)
- [GenericPipe\\$hash\(\)](#)
- [GenericPipe\\$clone\(\)](#)

Method `new()`: Creates a [GenericPipe](#) object.

Usage:

```
GenericPipe$new(propertyName, alwaysBeforeDeps, notAfterDeps)
```

Arguments:

propertyName A [character](#) value. Name of the property associated with the Pipe.

`alwaysBeforeDeps` A [list](#) value. The dependencies `alwaysBefore` (Pipes that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies `notAfter` (Pipes that cannot be executed after this one).

Method `pipe()`: Abstract method to preprocess the [Instance](#).

Usage:

```
GenericPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The preprocessed [Instance](#).

Method `getPropertyName()`: Gets of name of property.

Usage:

```
GenericPipe$getPropertyName()
```

Returns: Value of name of property.

Method `getAlwaysBeforeDeps()`: Gets of the dependencies always before.

Usage:

```
GenericPipe$getAlwaysBeforeDeps()
```

Returns: Value of dependencies always before.

Method `getNotAfterDeps()`: Gets of the dependencies not after.

Usage:

```
GenericPipe$getNotAfterDeps()
```

Returns: Value of dependencies not after.

Method `setPropertyName()`: Changes the value of property's name.

Usage:

```
GenericPipe$setPropertyName(propertyName)
```

Arguments:

`propertyName` A [character](#) value. The new value of the property's name.

Method `setAlwaysBeforeDeps()`: Changes the value of dependencies always before.

Usage:

```
GenericPipe$setAlwaysBeforeDeps(alwaysBeforeDeps)
```

Arguments:

`alwaysBeforeDeps` A [list](#) value. The new value of the dependencies always before.

Method `setNotAfterDeps()`: Changes the value of dependencies not after.

Usage:

```
GenericPipe$setNotAfterDeps(notAfterDeps)
```

Arguments:

notAfterDeps A [list](#) value. The new value of the dependencies not after.

Method hash(): Generates an identification of pipe based on its fields.

Usage:

```
GenericPipe$hash(algo = "md5")
```

Arguments:

algo Algorithm to be applied. Options: "md5", "sha1", "crc32", "sha256", "sha512", "xxhash32", "xxhash64", "murmur32", "spookyhash

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
GenericPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.log](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

GenericPipeline

Abstract super class implementing the pipelining process

Description

Abstract super class to establish the flow of Pipes.

Methods

Public methods:

- [GenericPipeline\\$new\(\)](#)
- [GenericPipeline\\$execute\(\)](#)
- [GenericPipeline\\$get\(\)](#)
- [GenericPipeline\\$string\(\)](#)
- [GenericPipeline\\$clone\(\)](#)

Method new(): Creates a [GenericPipeline](#) object.

Usage:

```
GenericPipeline$new()
```

Method execute(): Function where is implemented the flow of the [GenericPipes](#).

Usage:

GenericPipeline\$execute(instance)

Arguments:

instance A [Instance](#) value. The [Instance](#) that is going to be processed.

Returns: The preprocessed [Instance](#).

Method get(): Gets a list with containing the set of [GenericPipes](#) of the pipeline.

Usage:

GenericPipeline\$get()

Returns: The set of [GenericPipes](#) containing the pipeline.

Method toString(): Returns a [character](#) representing the pipeline.

Usage:

GenericPipeline\$toString()

Details: This function allows to set a place to define a [character](#) representation of the structure of a pipeline.

Returns: [GenericPipeline character](#) representation

Method clone(): The objects of this class are cloneable with this method.

Usage:

GenericPipeline\$clone(deep = FALSE)

Arguments:

deep Whether to make a deep clone.

See Also

[bdpar.log](#), [DefaultPipeline](#), [DynamicPipeline](#), [Instance](#), [GenericPipe](#), [%>|%](#)

GuessDatePipe

Class to obtain the date field of an Instance

Description

Obtains the **date** using the method which implements the subclass of [Instance](#).

Inherit

This class inherit from [GenericPipe](#) and implements the pipe abstract function.

Super class

[bdpar::GenericPipe](#) -> GuessDatePipe

Methods

Public methods:

- [GuessDatePipe\\$new\(\)](#)
- [GuessDatePipe\\$pipe\(\)](#)
- [GuessDatePipe\\$clone\(\)](#)

Method `new()`: Creates a [GuessDatePipe](#) object.

Usage:

```
GuessDatePipe$new(  
  propertyName = "date",  
  alwaysBeforeDeps = list("TargetAssigningPipe"),  
  notAfterDeps = list()  
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).
`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).
`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

Method `pipe()`: Preprocesses the [Instance](#) to obtain the date.

Usage:

```
GuessDatePipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
GuessDatePipe$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

GuessLanguagePipe *Class to guess the language of an Instance*

Description

This class allows guess the language by using language detector of library cld2. Creates the **language** property which indicates the idiom text. Optionally, it is possible to choose the language provided by Twitter.

Details

To obtain the language of the tweets, it will be verified that there is a json file with the information stored in memory. On the other hand, it is necessary define the "**cache.twitter.path**" field of *bdpar.Options* variable to know where the information of tweets are saved.

Note

The Pipe will invalidate the [Instance](#) if the language of the data can not be detect.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe -> GuessLanguagePipe`

Methods

Public methods:

- [GuessLanguagePipe\\$new\(\)](#)
- [GuessLanguagePipe\\$pipe\(\)](#)
- [GuessLanguagePipe\\$getLanguage\(\)](#)
- [GuessLanguagePipe\\$clone\(\)](#)

Method `new()`: Creates a [GuessLanguagePipe](#) object.

Usage:

```
GuessLanguagePipe$new(  
  propertyName = "language",  
  alwaysBeforeDeps = list("StoreFileExtPipe", "TargetAssigningPipe"),  
  notAfterDeps = list(),  
  languageTwitter = TRUE  
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies `alwaysBefore` ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies `notAfter` ([GenericPipes](#) that cannot be executed after this one).

`languageTwitter` A [logical](#) value. Indicates whether for the [Instances](#) of type `twitid` the language that returns the API is obtained or the detector is applied.

Method `pipe()`: Preprocesses the [Instance](#) to obtain the language of the data.

Usage:

```
GuessLanguagePipe$.pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `getLanguage()`: Guesses the language of data.

Usage:

```
GuessLanguagePipe$.getLanguage(data)
```

Arguments:

`data` A [character](#) value. The text to guess the ζ language.

Returns: The language guesser. Format: see ISO 639-3:2007.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
GuessLanguagePipe$.clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.Options](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

Instance

Abstract super class that handles the management of the Instances

Description

Provides the required methods to successfully handle each [Instance](#) class.

Methods**Public methods:**

- Instance\$new()
- Instance\$obtainDate()
- Instance\$obtainSource()
- Instance\$getDate()
- Instance\$getSource()
- Instance\$getPath()
- Instance\$getData()
- Instance\$getProperties()
- Instance\$setSource()
- Instance\$setData()
- Instance\$setDate()
- Instance\$setProperties()
- Instance\$addProperties()
- Instance\$getSpecificProperty()
- Instance\$isSpecificProperty()
- Instance\$setSpecificProperty()
- Instance\$getNamesOfProperties()
- Instance\$isInstanceValid()
- Instance\$invalidate()
- Instance\$getFlowPipes()
- Instance\$addFlowPipes()
- Instance\$getBanPipes()
- Instance\$addBanPipes()
- Instance\$checkCompatibility()
- Instance\$toString()
- Instance\$clone()

Method new(): Creates a [Instance](#) object.

Usage:

```
Instance$new(path)
```

Arguments:

path A [character](#) value. Path of the file.

Method obtainDate(): Abstract function responsible for obtaining the date of the [Instance](#).

Usage:

```
Instance$obtainDate()
```

Method obtainSource(): Abstract function responsible for determining the source of the [Instance](#).

Usage:

Instance\$obtainSource()

Method getDate(): Gets the date.

Usage:

Instance\$getDate()

Returns: Value of date.

Method getSource(): Gets the source.

Usage:

Instance\$getSource()

Returns: Value of source.

Method getPath(): Gets the path.

Usage:

Instance\$getPath()

Returns: Value of path.

Method getData(): Gets the data.

Usage:

Instance\$getData()

Returns: Value of data.

Method getProperties(): Gets the properties

Usage:

Instance\$getProperties()

Returns: Value of properties.

Method setSource(): Modifies the source value.

Usage:

Instance\$setSource(source)

Arguments:

source A [character](#) value. The new value of source.

Method setData(): Modifies the data value.

Usage:

Instance\$setData(data)

Arguments:

data A [character](#) value. The new value of data.

Method setDate(): Modifies the date value.

Usage:

Instance\$setDate(date)

Arguments:

date A [character](#) value. The new value of date.

Method `setProperty():` Modifies the properties value.

Usage:

```
Instance$setProperty(properties)
```

Arguments:

properties A [list](#) value. The new list of properties.

Method `addProperties():` Adds a property to the list of the properties.

Usage:

```
Instance$addProperties(propertyValue, propertyName)
```

Arguments:

propertyValue A Object value. The value of the new property.

propertyName A [character](#) value. The name of the new property.

Method `getSpecificProperty():` Obtains a specific property.

Usage:

```
Instance$getSpecificProperty(propertyName)
```

Arguments:

propertyName A [character](#) value. The name of the property to obtain.

Returns: The value of the specific property.

Method `isSpecificProperty():` Checks for the existence of an specific property.

Usage:

```
Instance$isSpecificProperty(propertyName)
```

Arguments:

propertyName A [character](#) value. The name of the property to check.

Returns: A logical results according to the existence of the specific property in the list of properties.

Method `setSpecificProperty():` Modifies the value of the one property.

Usage:

```
Instance$setSpecificProperty(propertyName, propertyValue)
```

Arguments:

propertyName A [character](#) value. The name of the property.

propertyValue A Object value. The new value of the property.

Method `getNamesOfProperties():` Gets of the names of all properties.

Usage:

```
Instance$getNamesOfProperties()
```

Returns: The names of properties.

Method `isInstanceValid():` Checks if the [Instance](#) is valid.

Usage:

Instance\$isInstanceValid()

Returns: Value of isValid flag.

Method invalidate(): Forces the invalidation of an specific [Instance](#).

Usage:

Instance\$invalidate()

Method getFlowPipes(): Gets the list of the flow of [GenericPipe](#).

Usage:

Instance\$getFlowPipes()

Returns: Names of the [GenericPipe](#) used.

Method addFlowPipes(): Gets the list of the flow of [GenericPipe](#).

Usage:

Instance\$addFlowPipes(namePipe)

Arguments:

namePipe A [character](#) value. Name of the new [GenericPipe](#) to be added in the [GenericPipeline](#).

Method getBanPipes(): Gets an array with containing all the ban [GenericPipe](#).

Usage:

Instance\$getBanPipes()

Returns: Value of ban [GenericPipe](#) array.

Method addBanPipes(): Added the name of the Pipe to the array that keeps the track of [GenericPipes](#) having running after restrictions.

Usage:

Instance\$addBanPipes(namePipe)

Arguments:

namePipe A [character](#) value. [GenericPipe](#) name to be introduced into the ban array.

Method checkCompatibility(): Check compatibility between [GenericPipes](#).

Usage:

Instance\$checkCompatibility(namePipe, alwaysBefore)

Arguments:

namePipe A [character](#) value. The name of the [GenericPipe](#) name to check the compatibility.
alwaysBefore A [list](#) value. [GenericPipes](#) that the [Instance](#) had to go through.

Method toString(): Returns a [character](#) representing the instance

Usage:

Instance\$toString()

Returns: [Instance character](#) representation

Method clone(): The objects of this class are cloneable with this method.

Usage:

Instance\$clone(deep = FALSE)

Arguments:

deep Whether to make a deep clone.

See Also

[ExtractorEml](#), [ExtractorSms](#), [ExtractorTwtid](#), [ExtractorYtbid](#)

InterjectionPipe	<i>Class to find and/or remove the interjections on the data field of an Instance</i>
------------------	---

Description

[InterjectionPipe](#) class is responsible for detecting the existing interjections in the **data** field of each [Instance](#). Identified interjections are stored inside the **interjection** field of [Instance](#) class. Moreover if needed, is able to perform inline interjections removal.

Details

[InterjectionPipe](#) class requires the resource files (in json format) containing the list of interjections. To this end, the language of the text indicated in the *propertyLanguageName* should be contained in the resource file name (ie. *interj.xxx.json* where *xxx* is the value defined in the *propertyLanguageName*). The location of the resources should be defined in the "**resources.interjections.path**" field of *bdpar.Options* variable.

Note

[InterjectionPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

[bdpar::GenericPipe](#) -> [InterjectionPipe](#)

Methods**Public methods:**

- [InterjectionPipe\\$new\(\)](#)
- [InterjectionPipe\\$pipe\(\)](#)
- [InterjectionPipe\\$findInterjection\(\)](#)
- [InterjectionPipe\\$removeInterjection\(\)](#)
- [InterjectionPipe\\$getPropertyLanguageName\(\)](#)
- [InterjectionPipe\\$getResourcesInterjectionsPath\(\)](#)
- [InterjectionPipe\\$setResourcesInterjectionsPath\(\)](#)
- [InterjectionPipe\\$clone\(\)](#)

Method [new\(\)](#): Creates a [InterjectionPipe](#) object.

Usage:

```
InterjectionPipe$new(
  propertyName = "interjection",
  propertyLanguageName = "language",
  alwaysBeforeDeps = list("GuessLanguagePipe"),
  notAfterDeps = list(),
  removeInterjections = TRUE,
  resourcesInterjectionsPath = NULL
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`propertyLanguageName` A [character](#) value. Name of the language property.

`alwaysBeforeDeps` A [list](#) value. The dependencies [alwaysBefore](#) ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies [notAfter](#) ([GenericPipes](#) that cannot be executed after this one).

`removeInterjections` A [logical](#) value. Indicates if the interjections are removed or not.

`resourcesInterjectionsPath` A [character](#) value. Path of resource files (in json format) containing the interjections.

Method `pipe()`: Preprocesses the [Instance](#) to obtain/remove the interjections. The interjections found in the data are added to the list of properties of the [Instance](#).

Usage:

```
InterjectionPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `findInterjection()`: Checks if the interjection is in the data.

Usage:

```
InterjectionPipe$findInterjection(data, interjection)
```

Arguments:

`data` A [character](#) value. The text where interjection will be searched.

`interjection` A [character](#) value. Indicates the interjection to find.

Returns: A [logical](#) value depending on whether the interjection is in the data.

Method `removeInterjection()`: Removes the *interjection* in the data.

Usage:

```
InterjectionPipe$removeInterjection(interjection, data)
```

Arguments:

`interjection` A [character](#) value. Indicates the interjection to remove.

`data` A [character](#) value. The text where interjection will be removed.

Returns: The data with the interjections removed.

Method getPropertyLanguageName(): Gets the name of property language.

Usage:

```
InterjectionPipe$getPropertyLanguageName()
```

Returns: Value of name of property language.

Method getResourcesInterjectionsPath(): Gets the path of interjections resources.

Usage:

```
InterjectionPipe$getResourcesInterjectionsPath()
```

Returns: Value of path of interjections resources.

Method setResourcesInterjectionsPath(): Sets the path of interjections resources.

Usage:

```
InterjectionPipe$setResourcesInterjectionsPath(path)
```

Arguments:

path A [character](#) value. The new value of the path of interjections resources.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
InterjectionPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.Options](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

MeasureLengthPipe

Class to obtain the length of the data field of an Instance

Description

This class is responsible of obtain the length of the **data** field of each [Instance](#). Creates the **length** property which indicates the length of the text. The property's name is customize thought the class constructor.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

[bdpar::GenericPipe](#) -> MeasureLengthPipe

Methods

Public methods:

- [MeasureLengthPipe\\$new\(\)](#)
- [MeasureLengthPipe\\$pipe\(\)](#)
- [MeasureLengthPipe\\$getLength\(\)](#)
- [MeasureLengthPipe\\$clone\(\)](#)

Method new(): Creates a [File2Pipe](#) object.

Usage:

```
MeasureLengthPipe$new(
  propertyName = "length",
  alwaysBeforeDeps = list(),
  notAfterDeps = list(),
  nchar_conf = TRUE
)
```

Arguments:

propertyName A [character](#) value. Name of the property associated with the [GenericPipe](#).

alwaysBeforeDeps A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

notAfterDeps A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

nchar_conf A [logical](#) value. indicates if the pipe uses nchar or object.size.

Method pipe(): Preprocesses the [Instance](#) to obtain the length of data.

Usage:

```
MeasureLengthPipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method getLength(): Preprocesses the [Instance](#) to obtain the length of data.

Usage:

```
MeasureLengthPipe$getLength(data, nchar_conf = TRUE)
```

Arguments:

data A [character](#) value. The text to preprocess.

nchar_conf A [logical](#) value. Indicates if the pipe uses nchar or object.size.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
MeasureLengthPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

AbbreviationPipe, ContractionPipe, File2Pipe, FindEmojiPipe, FindEmoticonPipe, FindHashtagPipe, FindUrlPipe, FindUserNamePipe, GuessDatePipe, GuessLanguagePipe, Instance, InterjectionPipe, GenericPipe, ResourceHandler, SlangPipe, StopWordPipe, StoreFileExtPipe, TargetAssigningPipe, TeeCSVPipe, ToLowerCasePipe

operator-pipe	<i>bdpar customized forward-pipe operator</i>
---------------	---

Description

Defines a customized forward pipe operator extending the features of classical `%>%`. Concretely `%>|%` is able to stop the pipelining process whenever an `Instance` has been invalidated. This issue, avoids executing the whole pipelining process for the invalidated `Instance` and therefore reduce the time and resources used to complete the whole process.

Usage

```
lhs %>|% rhs
```

Arguments

lhs	an <code>Instance</code> object.
rhs	a function call using the <code>bdpar</code> semantics.

Value

The `Instance` modified by the methods it has traversed.

Details

This is the `%>%` operator of the modified `magrittr` library to both (i) to stop the flow when the `Instance` is invalid and (ii) automatically call the pipe function of the R6 objects passing through it (iii) to check the dependencies of the `Instance` and (iv) to manage the pipeline cache.

The usage structure would be as shown below:

```
instance %>|%
pipeObject$new() %>|%
pipeObject$new(<<argument1>>, <<argument2>>, ...) %>|%
pipeObject$new()
```

Note

Pipelining process is automatically stopped if the `Instance` is invalid.

See Also

[bdpar.Options](#), [Instance](#), [GenericPipe](#)

ResourceHandler	<i>Class that handles different types of resources</i>
-----------------	--

Description

Class that handles different types of resources.

Details

It is a class that allows store the resources that are needed in the [GenericPipes](#) to avoid having to repeatedly read from the file. File resources of type json are read and stored in memory.

Methods**Public methods:**

- [ResourceHandler\\$new\(\)](#)
- [ResourceHandler\\$isLoadResource\(\)](#)
- [ResourceHandler\\$getResources\(\)](#)
- [ResourceHandler\\$setResources\(\)](#)
- [ResourceHandler\\$getNamesResources\(\)](#)
- [ResourceHandler\\$clone\(\)](#)

Method [new\(\)](#): Creates a [ResourceHandler](#) object.

Usage:

```
ResourceHandler$new()
```

Method [isLoadResource\(\)](#): From the resource path, it is checked if they have already been loaded. In this case, the list of the requested resource is returned. Otherwise, the resource variable is added to the list of resources, and the resource list is returned. In the event that the resource file does not exist, NULL is returned.

Usage:

```
ResourceHandler$isLoadResource(pathResource)
```

Arguments:

pathResource A (*character*) value. The resource file path.

Returns: The resources list is returned, if they exist.

Method [getResources\(\)](#): Gets of resources variable.

Usage:

```
ResourceHandler$getResources()
```

Returns: The value of resources variable.

Method setResources(): Sets of resources variable.

Usage:

```
ResourceHandler$setResources(resources)
```

Arguments:

resources The new value of resources.

Method getNamesResources(): Gets of names of resources

Usage:

```
ResourceHandler$getNamesResources()
```

Returns: Value of names of resources.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
ResourceHandler$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

runPipeline

Initiates the pipelining process

Description

runPipeline is responsible for easily initialize the pipelining preprocessing process.

Usage

```
runPipeline(path, extractors = ExtractorFactory$new(),
  pipeline = DefaultPipeline$new(), cache = TRUE, verbose = FALSE, summary = FALSE)
```

Arguments

path	(<i>character</i>) path where the files to be preprocessed are located.
extractors	(<i>ExtractorFactory</i>) object implementing the method createInstance to choose which type of Instance is created.
pipeline	(<i>GenericPipeline</i>) subclass of GenericPipeline , which implements the whole pipelining process.
cache	(<i>logical</i>) flag indicating if the status of the instances will be stored after each pipe. This allows to avoid rejections of previously executed tasks, if the order and configuration of the pipe and pipeline is the same as what is stored in the cache.
verbose	(<i>logical</i>) flag indicating for printing messages, warnings and errors.
summary	(<i>logical</i>) flag indicating if a summary of the pipeline execution is provided or not.

Value

List of [Instance](#) that have been preprocessed.

Details

In the case that some pipe, defined on the workflow, needs some type of configuration, it can be defined through [bdpar.Options](#) variable which have different methods to support the functionality of different pipes.

See Also

[Bdpar](#), [bdpar.Options](#), [Connections](#), [DefaultPipeline](#), [DynamicPipeline](#), [GenericPipeline](#), [Instance](#), [ExtractorFactory](#), [ResourceHandler](#)

Examples

```
## Not run:

#If it is necessary to indicate any existing configuration key, do it through:
#bdpar.Options$set(key, value)
#If the key is not initialized, do it through:
#bdpar.Options$add(key, value)

#If it is necessary parallelize, do it through:
#bdpar.Options$set("numCores", numCores)

#If it is necessary to change the behavior of the log, do it through:
#bdpar.Options$configureLog(console = TRUE, threshold = "INFO", file = NULL)

#Folder with the files to preprocess
path <- system.file("example",
                    package = "bdpar")

#Object which decides how creates the instances
extractors <- ExtractorFactory$new()

#Object which indicates the pipes' flow
pipeline <- DefaultPipeline$new()

#Starting file preprocessing...
runPipeline(path = path,
            extractors = extractors,
            pipeline = pipeline,
            cache = FALSE,
            verbose = FALSE,
            summary = TRUE)

## End(Not run)
```

SlangPipe

Class to find and/or replace the slangs on the data field of an Instance

Description

[SlangPipe](#) class is responsible for detecting the existing slangs in the **data** field of each [Instance](#). Identified slangs are stored inside the **slang** field of [Instance](#) class. Moreover if needed, is able to perform inline slangs replacement.

Details

[SlangPipe](#) class requires the resource files (in json format) containing the correspondence between slangs and meaning. To this end, the language of the text indicated in the *propertyLanguageName* should be contained in the resource file name (ie. slang.xxx.json where xxx is the value defined in the *propertyLanguageName*). The location of the resources should be defined in the "**resources.slangs.path**" field of [bdpar.Options](#) variable.

Note

[SlangPipe](#) will automatically invalidate the [Instance](#) whenever the obtained data is empty.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe -> SlangPipe`

Methods

Public methods:

- [SlangPipe\\$new\(\)](#)
- [SlangPipe\\$pipe\(\)](#)
- [SlangPipe\\$findSlang\(\)](#)
- [SlangPipe\\$replaceSlang\(\)](#)
- [SlangPipe\\$getPropertyLanguageName\(\)](#)
- [SlangPipe\\$getResourceSlangsPath\(\)](#)
- [SlangPipe\\$setResourceSlangsPath\(\)](#)
- [SlangPipe\\$clone\(\)](#)

Method `new()`: Creates a [SlangPipe](#) object.

Usage:

```

SlangPipe$new(
  propertyName = "langpropname",
  propertyLanguageName = "language",
  alwaysBeforeDeps = list("GuessLanguagePipe"),
  notAfterDeps = list(),
  replaceSlangs = TRUE,
  resourcesSlangsPath = NULL
)

```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`propertyLanguageName` A [character](#) value. Name of the language property.

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

`replaceSlangs` A [logical](#) value. Indicates if the slangs are replaced or not.

`resourcesSlangsPath` A [character](#) value. Path of resource files (in json format) containing the correspondence between slangs and meaning.

Method `pipe()`: Preprocesses the [Instance](#) to obtain/replace the slangs. The slangs found in the data are added to the list of properties of the [Instance](#).

Usage:

```
SlangPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `findSlang()`: Checks if the slang is in the data.

Usage:

```
SlangPipe$findSlang(data, slang)
```

Arguments:

`data` A [character](#) value. The text where slang will be searched.

`slang` A [character](#) value. Indicates the slang to find.

Returns: A [logical](#) value depending on whether the slang is in the data.

Method `replaceSlang()`: Replaces the *slang* in the data for the *extendedSlang*.

Usage:

```
SlangPipe$replaceSlang(slang, extendedSlang, data)
```

Arguments:

`slang` A [character](#) value. Indicates the slang to replace.

`extendedSlang` A [character](#) value. Indicates the string to replace for the slangs found.

`data` A [character](#) value. The text where slang will be replaced.

Returns: The data with the slangs replaced.

Method `getPropertyLanguageName()`: Gets the name of property language.

Usage:

`SlangPipe$getPropertyLanguageName()`

Returns: Value of name of property language.

Method `getResourcesSlangsPath()`: Gets the path of slangs resources.

Usage:

`SlangPipe$getResourcesSlangsPath()`

Returns: Value of path of slangs resources.

Method `setResourcesSlangsPath()`: Sets the path of slangs resources.

Usage:

`SlangPipe$setResourcesSlangsPath(path)`

Arguments:

`path` A [character](#) value. The new value of the path of slangs resources.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

`SlangPipe$clone(deep = FALSE)`

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.Options](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

StopWordPipe

Class to find and/or remove the stop words on the data field of an Instance

Description

[StopWordPipe](#) class is responsible for detecting the existing stop words in the **data** field of each [Instance](#). Identified stop words are stored inside the **contraction** field of [Instance](#) class. Moreover if needed, is able to perform inline stop words removal.

Details

[StopWordPipe](#) class requires the resource files (in json format) containing the list of stop words. To this end, the language of the text indicated in the *propertyLanguageName* should be contained in the resource file name (ie. *xxx.json* where *xxx* is the value defined in the *propertyLanguageName*). The location of the resources should be defined in the "**resources.stopwords.path**" field of [bdpar.Options](#) variable.

Note

`StopWordPipe` will automatically invalidate the `Instance` whenever the obtained data is empty.

Inherit

This class inherits from `GenericPipe` and implements the pipe abstract function.

Super class

`bdpar::GenericPipe` -> `StopWordPipe`

Methods**Public methods:**

- `StopWordPipe$new()`
- `StopWordPipe$pipe()`
- `StopWordPipe$findStopWord()`
- `StopWordPipe$removeStopWord()`
- `StopWordPipe$getPropertyLanguageName()`
- `StopWordPipe$getResourcesStopWordsPath()`
- `StopWordPipe$setResourcesStopWordsPath()`
- `StopWordPipe$clone()`

Method `new()`: Creates a `StopWordPipe` object.

Usage:

```
StopWordPipe$new(
  propertyName = "stopWord",
  propertyLanguageName = "language",
  alwaysBeforeDeps = list("GuessLanguagePipe"),
  notAfterDeps = list("AbbreviationPipe"),
  removeStopWords = TRUE,
  resourcesStopWordsPath = NULL
)
```

Arguments:

`propertyName` A `character` value. Name of the property associated with the `GenericPipe`.

`propertyLanguageName` A `character` value. Name of the language property.

`alwaysBeforeDeps` A `list` value. The dependencies alwaysBefore (`GenericPipes` that must be executed before this one).

`notAfterDeps` A `list` value. The dependencies notAfter (`GenericPipes` that cannot be executed after this one).

`removeStopWords` A `logical` value. Indicates if the stop words are removed or not.

`resourcesStopWordsPath` A `character` value. Path of resource files (in json format) containing the stop words.

Method `pipe()`: Preprocesses the `Instance` to obtain/remove the stop words. The stop words found in the data are added to the list of properties of the `Instance`.

Usage:

```
StopWordPipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method findStopWord(): Checks if the stop word is in the data.

Usage:

```
StopWordPipe$findStopWord(data, stopWord)
```

Arguments:

data A [character](#) value. The text where stop word will be searched.

stopWord A [character](#) value. Indicates the stop word to find.

Returns: A [logical](#) value depending on whether the stop word is in the data.

Method removeStopWord(): Removes the *stop word* in the data.

Usage:

```
StopWordPipe$removeStopWord(stopWord, data)
```

Arguments:

stopWord A [character](#) value. Indicates the stop word to remove.

data A [character](#) value. The text where stop word will be removed.

Returns: The data with the stop words removed.

Method getPropertyLanguageName(): Gets the name of property language.

Usage:

```
StopWordPipe$getPropertyLanguageName()
```

Returns: Value of name of property language.

Method getResourcesStopWordsPath(): Gets the path of stop words resources.

Usage:

```
StopWordPipe$getResourcesStopWordsPath()
```

Returns: Value of path of stop words resources.

Method setResourcesStopWordsPath(): Sets the path of stop words resources.

Usage:

```
StopWordPipe$setResourcesStopWordsPath(path)
```

Arguments:

path A [character](#) value. The new value of the path of stop words resources.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
StopWordPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.Options](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

StoreFileExtPipe	<i>Class to get the file's extension field of an Instance</i>
------------------	---

Description

Gets the extension of a file. Creates the **extension** property which indicates extension of the file.

Note

[StoreFileExtPipe](#) will automatically invalidate the [Instance](#) if it is not able to find the extension from the path field.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar : GenericPipe -> StoreFileExtPipe`

Methods**Public methods:**

- [StoreFileExtPipe\\$new\(\)](#)
- [StoreFileExtPipe\\$pipe\(\)](#)
- [StoreFileExtPipe\\$obtainExtension\(\)](#)
- [StoreFileExtPipe\\$clone\(\)](#)

Method `new()`: Creates a [StoreFileExtPipe](#) object.

Usage:

```
StoreFileExtPipe$new(
  propertyName = "extension",
  alwaysBeforeDeps = list(),
  notAfterDeps = list()
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

notAfterDeps A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

Method pipe(): Preprocesses the [Instance](#) to obtain the extension of [Instance](#).

Usage:

```
StoreFileExtPipe$pipe(instance)
```

Arguments:

instance A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method obtainExtension(): Gets of extension of the path.

Usage:

```
StoreFileExtPipe$obtainExtension(path)
```

Arguments:

path A [character](#) value. The path of the file to get the extension.

Returns: Extension of the path.

Method clone(): The objects of this class are cloneable with this method.

Usage:

```
StoreFileExtPipe$clone(deep = FALSE)
```

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

TargetAssigningPipe *Class to get the target field of the Instance*

Description

This class allows searching in the path the **target** of the [Instance](#).

Details

The targets that are searched can be controlled through the constructor of the class where *targetName* will be the string that is searched within the path and targets has the values that the property can take.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar : GenericPipe -> TargetAssigningPipe`

Methods**Public methods:**

- [TargetAssigningPipe\\$new\(\)](#)
- [TargetAssigningPipe\\$pipe\(\)](#)
- [TargetAssigningPipe\\$getTarget\(\)](#)
- [TargetAssigningPipe\\$checkTarget\(\)](#)
- [TargetAssigningPipe\\$getTargets\(\)](#)
- [TargetAssigningPipe\\$clone\(\)](#)

Method `new()`: Creates a [TargetAssigningPipe](#) object.

Usage:

```
TargetAssigningPipe$new(
  targets = list("ham", "spam"),
  targetsName = list("_ham_", "_spam_"),
  propertyName = "target",
  alwaysBeforeDeps = list(),
  notAfterDeps = list()
)
```

Arguments:

`targets` A [list](#) value. Name of the targets property.

`targetsName` A [list](#) value. The name of folders.

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

Method `pipe()`: Preprocesses the [Instance](#) to obtain the target.

Usage:

```
TargetAssigningPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `getTarget()`: Gets the target from a path.

Usage:

TargetAssigningPipe\$getTarget(path)

Arguments:

path A [character](#) value. The path to analyze.

Returns: The target of the path.

Method checkTarget(): Checks if the target is in the path.

Usage:

TargetAssigningPipe\$checkTarget(target, path)

Arguments:

target A [character](#) value. The target to find in the path.

path A [character](#) value. The path to analyze.

Returns: if the target is found, returns target, else returns "".

Method getTargets(): Gets of targets.

Usage:

TargetAssigningPipe\$getTargets()

Returns: Value of targets.

Method clone(): The objects of this class are cloneable with this method.

Usage:

TargetAssigningPipe\$clone(deep = FALSE)

Arguments:

deep Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TeeCSVPipe](#), [ToLowerCasePipe](#)

TeeCSVPipe

Class to handle a CSV with the properties field of the preprocessed Instance

Description

Complete a CSV with the properties of the preprocessed [Instance](#).

Details

The path to save the properties should be defined in the "**teeCSVPipe.output.path**" field of [bd-par.Options](#) variable.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

`bdpar::GenericPipe` -> TeeCSVPipe

Methods**Public methods:**

- [TeeCSVPipe\\$new\(\)](#)
- [TeeCSVPipe\\$pipe\(\)](#)
- [TeeCSVPipe\\$clone\(\)](#)

Method `new()`: Creates a [TeeCSVPipe](#) object.

Usage:

```
TeeCSVPipe$new(
  propertyName = "",
  alwaysBeforeDeps = list(),
  notAfterDeps = list(),
  withData = TRUE,
  withSource = TRUE,
  outputPath = NULL
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

`withData` A [logical](#) value. Indicates if the data is added to CSV.

`withSource` A [logical](#) value. Indicates if the source is added to CSV.

`outputPath` A [character](#) value. The path of CSV.

Method `pipe()`: Completes the CSV with the preprocessed [Instance](#).

Usage:

```
TeeCSVPipe$pipe(instance)
```

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

```
TeeCSVPipe$clone(deep = FALSE)
```

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [bdpar.Options](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [ToLowerCasePipe](#)

ToLowerCasePipe	<i>Class to convert the data field of an Instance to lower case</i>
-----------------	---

Description

Class to convert the data field of an [Instance](#) to lower case.

Inherit

This class inherits from [GenericPipe](#) and implements the pipe abstract function.

Super class

[bdpar:GenericPipe](#) -> ToLowerCasePipe

Methods**Public methods:**

- [ToLowerCasePipe\\$new\(\)](#)
- [ToLowerCasePipe\\$pipe\(\)](#)
- [ToLowerCasePipe\\$toLowerCase\(\)](#)
- [ToLowerCasePipe\\$clone\(\)](#)

Method [new\(\)](#): Creates a [ToLowerCasePipe](#) object.

Usage:

```
ToLowerCasePipe$new(
  propertyName = "",
  alwaysBeforeDeps = list(),
  notAfterDeps = list()
)
```

Arguments:

`propertyName` A [character](#) value. Name of the property associated with the [GenericPipe](#).

`alwaysBeforeDeps` A [list](#) value. The dependencies alwaysBefore ([GenericPipes](#) that must be executed before this one).

`notAfterDeps` A [list](#) value. The dependencies notAfter ([GenericPipes](#) that cannot be executed after this one).

Method [pipe\(\)](#): Preprocesses the [Instance](#) to convert the data to lower case.

Usage:

`ToLowerCasePipe$pipe(instance)`

Arguments:

`instance` A [Instance](#) value. The [Instance](#) to preprocess.

Returns: The [Instance](#) with the modifications that have occurred in the pipe.

Method `toLowerCase()`: Converts the data to lower case

Usage:

`ToLowerCasePipe$toLowerCase(data)`

Arguments:

`data` A [character](#) value. Text to preprocess.

Returns: The data in lower case.

Method `clone()`: The objects of this class are cloneable with this method.

Usage:

`ToLowerCasePipe$clone(deep = FALSE)`

Arguments:

`deep` Whether to make a deep clone.

See Also

[AbbreviationPipe](#), [ContractionPipe](#), [File2Pipe](#), [FindEmojiPipe](#), [FindEmoticonPipe](#), [FindHashtagPipe](#), [FindUrlPipe](#), [FindUserNamePipe](#), [GuessDatePipe](#), [GuessLanguagePipe](#), [Instance](#), [InterjectionPipe](#), [MeasureLengthPipe](#), [GenericPipe](#), [ResourceHandler](#), [SlangPipe](#), [StopWordPipe](#), [StoreFileExtPipe](#), [TargetAssigningPipe](#), [TeeCSVPipe](#)

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